Subcontracts in the UK Construction Industry: An Investigation into the Root Causes of Disputes

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I blame you all. Paul Chynoweth for sending the email that started me on a torturous journey of research, and for his support and guidance in the early stages. Made worse by Brodie McAdam, my supervisor, for making the unpleasant situation last seven years with all his kind support and encouragement, and for attempting to stretch my thinking. Lastly, my Lisselle for her love and forbearance, and for reading the entire thesis and pointing out the errors under great provocation. You owe me.

DECLARATION

The research study contains material, namely parts of Chapters 1 to 5, that has been previously submitted to University of Salford.

ABSTRACT

Subcontracting practice under a traditional procurement route in the UK construction industry is the dominant method by which construction work is carried out, using mainly discrete classical subcontracts. Inevitably, this method has a paramount function in the delivery of successful construction projects. However, construction disputes[1] between main contractors and subcontractors are a widespread occurrence. The cost of disputes is significant; they reduce profits, affect productivity, are often time consuming, and damage relationships, sometimes irrevocably. Empirical exploration of the root causes of disputes is not new. However, disputes remain prevalent and entrenched in the industry, and consequently the need for further research is fundamental to understand and prevent disputes.

The aim of this research study is to identify and evaluate the potential root causes of disputes that arise between main contractors and subcontractors in the application of subcontract documents in the UK construction industry. A qualitative approach to the research study is adopted under an interpretative paradigm, using data collected from construction dispute cases within professional practice in the form of distinctive practice-based inquiries, and interviews of participants from main contractor and subcontractor organisations.

The findings show that there is no unique feature of a subcontractual relationship which will guarantee the absence of disputes. Likewise, it is not possible to identify a single universal root cause or causes of disputes. At best, it may be feasible to identify the root causes pertaining to an individual dispute relative to a specific construction project, but as the research shows given the complexity associated with each project relationship even that task is beset with uncertainty. Potential solutions to the successful formation and implementation of subcontracts to overcome the subcontracting pitfalls and mitigate disputes are provided.

[1] The term 'dispute' in the research study is defined as the situation between two parties who hold competing interpretations of a subcontractual right, that manifests into a dispute for resolution by formal means.

CHAPTER 1 INTRODUCTION AND CONTEXT

1.1 Design of the Research Study

This research study is an investigation into the root causes of construction disputes between main contractors and subcontractors in the application of subcontract documents in the UK construction industry. The Practitioner's[2] ambition was to establish a deeper understanding of the underlying structural and behavioural relationships between these two groups in conjunction with subcontract documents. The research study developed out of the Practitioner's reflections on his experience as a consultant specialising in construction disputes and as an adjudicator. It is in partial fulfilment of a professional doctorate in the built environment.

Chapter 1 considers the acquisition and production of knowledge for research in the built environment at doctoral level, underpinning the research and to place the research study in context. It also presents a theoretical research model to guide the Practitioner. Chapter 2 examines reflective practice and argues that critical reflection can inform professional practice and generate ideas for scholarly research. It also allows the reader to connect with the relevant background of the Practitioner; and demonstrates how he established the aim and objectives for the research study through critical reflection on his own practice, and by analysing research gaps in the literature. Chapter 3 analyses the theoretical purpose and context of written subcontracts and identifies three main functions (1) to record a legally binding agreement; (2) provide equitable risk apportionment; and (3) provide express control procedures for governing the relationship. Chapter 4 investigates the difficulties encountered by parties in attempting to fulfil the theoretical model of a subcontract and establishes that in practice this is often not achieved, resulting in disputes. Chapter 5 evaluates the research philosophy concerning the two interrelated ontological and epistemological positions. It supports the Practitioner's choice that a qualitative approach, for the research study under an interpretative paradigm, is the best research strategy for the aim of the research. It also justifies the two chosen methods i.e. practice-based inquiry and interview, for data collection and analysis. Chapter 6 presents the Practitioner's findings of four practice-based inquiries from

[2] A term used to identify the researcher and author of this research study

selected cases out of his own practice; and a framework for categorising the root causes of the disputes is presented and discussed.

Chapter 7 presents the Practitioner's findings from 16 semi-structured interviews with participants from main contractor and subcontractor organisations. A number of themes that emerged from the analyses is presented and discussed. Chapter 8 presents the four main characteristics that potentially lead to disputes, and identifies the most common pitfalls within each one; potential mitigating solutions to avoid disputes are proposed. Chapter 9 draws together the main findings of the research study from the preceding chapters and identifies the significant contributions to knowledge indicating avenues for further possible research.

1.2 Professional Doctorate Research

The doctoral research study was conducted in the construction industry in the UK, which forms part of the build environment. Establishing 'doctorateness' to provide a background for discussion supports the importance of considering the acquisition and production of knowledge in this context. Examining the knowledge base in terms of academia, professional practice, and the shared interests of the various disciplines provides a foundation for the creation of a theoretical model to guide the researcher in this study.

1.3 Doctorateness

A doctoral degree is the highest academic qualification that an institution can award following an agreed programme of study (QAA, 2011, p. 3). University regulations provide formal statements that outline the nature of the award. In terms of stating what is required by researchers in order to produce a thesis, 'doctorateness' has been described as involving:

> Mastery of the subject; mastery of analytical breadth (where methods, techniques, contexts and data are concerned) and mastery of depth (the contribution itself, judged to be competent and original and of high quality (Byrne, Jorgensen & Loukkola, 2013, p. 15).

A pre-requisite of doctoral study requires the student to develop new knowledge and/or understanding through original research (Winter, Griffiths & Green, 2000). In relation to professional doctorates, the classification of knowledge developed by Gibbons et al (1994) is often applied to underpin the characteristics and nature of the

ensuing knowledge (Smith, 2009). For instance, the authors differentiate between two types of knowledge, i.e. Mode 1 and Mode 2. Mode 1 relates to the convention of university based/acquired knowledge, where students generally acquire their knowledge within a university setting and then apply this to their chosen discipline or practice. This type of knowledge is more aligned with the traditional PhD that resonates with the principles of propositional knowledge (Smith, 2009). In the context of a professional doctorate the aim is to make a contribution to existing knowledge, and to advance or enhance professional practice (Smith, 2009). Portwood and Thorne describe the key features of a professional doctorate as:

> …interdisciplinary, reflection on practice, knowledge and understanding in the sense of praxis, applied research capability, and practical solutions and improvements of significant problems and issues in the work situation. (Portwood & Thorne, 1999, p. 111)

The distinctive feature of doctoral study is the capacity to develop original knowledge for a subject discipline. Tenant (2010) describes professional doctorates as linking doctoral education more closely with practice-based problems and issues. This creation of new knowledge, or of applying existing knowledge in a new way, is not expected in the same way at undergraduate or masters level (Byrne et al., 2013). The ultimate purpose of research into the built environment is to add something of value to the body of accumulated knowledge (Amaratunga, Baldry, Sarsha, & Newton, 2002) i.e. to identify and study unanswered questions or unsolved problems. For example, in practice the legal profession is habitually involved in finding answers to problems posed by clients. For doctoral students, research goes beyond the mere solving of practical legal problems. They can be the starting point for legal research and examples might include: a new solution to a problem; a new way to interpret a particular statutory provision, or court judgment; or a new way to evaluate a particular legal rule. The aim is always to share the new knowledge with the wider legal community. Doctoral researchers need to raise their levels of thinking beyond the descriptive and content aspects of research in order to display doctorateness (Trafford & Lesham, 2007), and there has to be some original idea how law is to be understood or applied (Mathias, 2008)

1.3.1 The Emergence of Doctorateness

Studies into the notion of what underpins doctorateness, and associated scholarly experience, stress the importance of reflecting on the guidelines that have been used to draft the research framework so that the prevailing notions of doctorateness can be reflected in an explicit manner (Trafford & Lesham, 2002). Murray (2003) suggests that facets of doctorateness would include *"…*research design, presentation, coherent argument, quality of writing, outcomes, conclusions and contexualisation" (Murray, 2003, p. 78).

Murray's (2003) observations concurred with contemporaneous research that categorised examiners' viva questions in connection with technical, practical and conceptual aspects of doctoral research, in which the level of thinking is compared with the level of research (Trafford & Lesham, 2007). Doctorateness emerges for researchers as they move from the practical and technical aspects of producing a thesis, towards abstract conceptualisations (Trafford & Lesham, 2007). This categorization of examiners questions placed doctorateness as most significant among 'equally' essential components of doctoral research. This view of doctorateness is further confirmed by Murray (2003) when he said:

> This issue poses a particular type of question in the doctoral viva inviting students to consider, where in the thesis they have engaged, explicitly, with doctoral criteria (Murray, 2003, p. 78).

1.4 Philosophy of Knowledge Related to the Built Environment

In conjunction with considering doctorateness, it is also instructive to consider the philosophy of knowledge and its relationship to the built environment field, and the different forms that knowledge can exist in.

Philosophers as early as Plato, attempted to understand how knowledge was obtained and ordered so that it could be suitably classified (Crompton, 2009). Epistemology, which is the study of knowledge derived from Ancient Greek, best illustrates the historical nature of the classifications (Crompton, 2009). Aristotle, the Greek philosopher, identified knowledge as having different distinct components, namely science *scientia* dealing with causes and reasons from subjective opinions *doxa,* and from technology *techne*, and the arts *ars* (Knight & Turnbull, 2008). Therefore, in order for knowledge to be defined as a 'justified true belief' it needs to be underpinned by

scientific justification (Knight & Turnbull, 2008). Such knowledge can only be gained by observation and inspection made of three disciplines (in the modern sense), namely mathematics, physics and philosophy, the latter of which Aristotle held to be the highest form (Weingart, 2010). This historical concept of the sciences excluded the arts and humanities as knowledge controlling actions (Weingart, 2010). However, the Roman *Stoa* (Weingart, 2010) subsequently developed a further classification of knowledge *phronesis*, which considers the purpose of knowledge in terms of its practical application. But as Aristotle (350BC/2004) observed, the "…mere possession of knowledge…[or]…training does not make us any more capable of putting our knowledge into practice" (Aristotle, 350BC/2004, p. 162).

In the context of the built environment, one can see a role for all types of knowledge. For instance, scientific knowledge is situated in fields such as material science, lighting science, environmental science, and other areas where research can be undertaken, replicated and verified according to scientific principles (Cairns, 2008). Technical knowledge underpins the field of building construction, as in production activity, i.e. how to make and assemble the component parts in order to arrive at the finished structure. One can see therefore that both scientific and technical knowledge, i.e. the natural science and applied science disciplines, identifies the built environment as a form 'inanimate entity' associated with physical buildings (Cairns, 2008). Phronetic knowledge incorporates both scientific and technical knowledge, but acknowledges that these are often "…mediated, moulded and applied according to the instrumental rationality"… of human beings (Flyvbjerg, 2001, p. 10). From this perspective it could be argued that knowledge of the built environment should be obtained from all angles, i.e. scientia, techne and phronesis (Cairns, 2008).

In a modern context, Knowledge has been described as the awareness and understanding of facts, truths or information gained in the form of experience or learning as distinct from simple information (Vail, 1999). Both knowledge and information consist of true statements, but knowledge is information that has purpose or use (Vail, 1999). The Oxford Dictionary of English (2005) defines knowledge as "facts, information, and skills acquired through experience or education; the theoretical or practical understanding of a subject". In practice there are many possible, equally plausible definitions of knowledge, for example:

> Knowledge is a fluid mix of framed experience, values, contextual information and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organisations it often becomes embedded not only in documents…but also organizational routines, processes, practices and norms (Davenport & Prusak, 1998, p. 5).

There are essentially two basic types of knowledge; explicit and implicit. Explicit, sometimes referred to as know-what (Brown & Duguid, 1998), is easy to identify, store, and retrieve in the form of books, journals, data and such like (Vail, 1999). Implicit, sometimes referred to as know-how (Brown & Duguid, 1998), refers to that hard to define knowledge which resides in human beings as intuitive, experiences and skills (Vail, 1999). This tacit knowledge is becoming regarded as the most valuable source of knowledge because, unlike explicit knowledge, it contains the rich wisdom of human experience (Wellman, 2009). Most, if not all, professionals in practice rely to some extent on this type of knowledge. A construction manager for example will resolve a technical problem on a construction project on their experience and intuition. However, it would be very difficult, if not impossible, to codify their knowledge into a document that could covey their know-how to a novice. Within the built environment the high concentration of professional knowledge practices and the labour intensive nature of the industry, stress the importance and extensive use of tacit knowledge. Against this background, it is important to consider the built environment knowledge base in terms of academic knowledge and professional practice.

1.5 Built Environment Knowledge Base

Professional disciplines in the built environment have emerged out of technical considerations, which have developed knowledge for practice under the guidance of established professions (Eraut, 1994) such as surveying, architecture, engineering and management. Professionals traditionally acquire their underpinning knowledge through a university education (Smith, 2009), often described as propositional knowledge "…with a basis in fact and theory, and in association with empirical research" (Smith, 2009, p. 141). Eraut (1994) contends however, that the knowledge applied by professionals differs from propositional knowledge; it is instead based on the notion of tacit knowledge as developed by Polanyi (1967) such as experience, judgment, trial and error, or intuition. Unlike the fact based and logical nature of

propositional knowledge, tacit knowledge is more difficult to define as it is based on "…the unarticulated knowledge that resides in human beings"… (Herrgard, 2000, p. 358). Such practice based professional knowledge is also represented in the work of Schon (1983, 1987), as is the development of practice-based professional learning through reflective practice to improve professional development. Tacit knowledge associated with the built environment professions is developed primarily within the context of professional practice, which builds upon that acquired from the academic university setting (Smith, 2009).

1.5.1 Academic and Professional Knowledge Contrasted

The university is seen as a formal institution concerned with the transmission and assessment of theoretical knowledge, which can create a "…seemingly solid wall or certainty and truth against which use of subjective knowledge crumbles" (Usher, 2002, p. 145). Fisher and Somerton (2000) show that it remains an indirect form of dominance, which sets students preconceptions about knowledge acquisition and new knowledge production. Trotter and Leech (2003) noticed that students have a reluctance to acknowledge or value their own tacit knowledge and ideas, and lack confidence in their personal theoretical perspective. Furthermore, Nixon and Murr's (2006) review demonstrates that there is a belief in an implicit hierarchy of knowledge that creates a barrier to the dissemination of professional knowledge created through practice learning. Universities have controlled the parameters of knowledge within the respective built environment disciplines, creating a system which reflects the interests of academic development, with journals catering for the needs of academics rather than practical application (Wood, 2002).

The traditional approach, which adheres to a hierarchical model of explicit and codified knowledge, has faced extensive critique for its consistent privileging of disciplinary and formal models of knowledge production, over knowledge production within professional practice (Schon, 1987). In Hager's (2001; 2004) view universities are still firmly entrenched in the traditional model, focusing on developing and assessing student's mental capacity and propositional knowledge. Such treatment of this tacit knowledge is seen as inhibiting rather than enhancing knowledge creation (Usher & Bryant, 1987).

Arguably, the university is becoming displaced from its traditional position as the primary place for the creation of knowledge (Scott, Brown, Lunt & Throne, 2004). Gibbons et al. (1994) produce a persuasive account of what they describe as a new form of knowledge production, i.e. Mode 2. By this they mean knowledge that is produced, not in the enclosed space of the disciplinary university, but in the context of practice application (Garrick & Rhodes, 2002). This new form of knowledge is emerging next to Mode 1 and is becoming more dominant (Hessels & Lente, 2008). However, Mode 1 will not disappear but will instead exist alongside Mode 2 (Huff, 2000). Five main attributes of Mode 2 knowledge summarise how it differs from Mode 1, shown in Table 1 below:

Table 1: Modes of Knowledge

Mode 1	Mode 2
Academic context	Context of application
Disciplinary	Transdisciplinary
Homogeneity	Reflexivity
Autonomy	Novel quality control
Traditional quality control (peer review)	

(Hessels & Lente, 2008, p. 741)

Hessels and Lente (2008) classify Mode 1 as disciplinary and Mode 2 as transdisciplinary. Mode 2 is charactarised by a collaborative approach between knowledge users and the academics, generated within practice by professionals (Smith, 2009). Thompson (2000) explores the relationship between theory and practice and explains how the creative process of critical reflection generates answers. This can be considered as 'new professional knowledge', because it is not about finding the right answers in a predefined body of knowledge. As such this approach best reflects the situation for the professional researcher where there is a reciprocal partnership between the university and the professional (Smith, 2009) as in the professional doctorate research.

Professional education is primarily concerned with professional knowledge, action and processes, as defined by Bines and Watson's (1992) post-technocratic model. This is a shift in emphasis from academic to professional development, which encompasses a professionals knowledge from practice, rather than for practice; and the skills required to use reflection, observation, analysis and evaluation to develop practice (Rutter, 2009). Boshuizen, Bromme and Gruber's (2004) review confirms that there is

a need to consider knowledge as an active entity within practical, perceptive judgment making, rather than rule-based, rational reasoning. Based on work by Schon (1983), Usher and Bryant (1987) explain that it has to be recognised that there is knowledge in practice rather than simply knowledge for practice. Eraut (1994) identifies knowledge in practice as process knowledge (skilled behaviour and deliberation) and personal knowledge (impressions and experiential interpretations), which alongside propositional knowledge (theories, concepts) together form professional knowledge. Thus, professional knowledge and ways of knowing emerging from these practical and reflective learning processes are necessarily subjective and reflexive, and challenge the universities traditional system discipline-based objectivity (Rutter, 2009).

In the built environment disciplines specialist expertise is developed within the context of a shared interest, i.e. in the management, development and maintenance of that built environment (Chapman, 2009). As Webster (2008) argued, there is also boundary-crossing interests that various disciplines share. However, it is clearly the built environment 'itself' that is of paramount concern for all of the disciplines if they are to achieve added value and integration between them (Chapman, 2009).

1.6 Built Environment Interdisciplinary Characteristics

The built environment disciplines have become recognised as a distinct field in teaching and research, encompassing a body of knowledge that is unique to them (Amaratunga, et al., 2002). For example: architecture can be defined as the art and science of designing and building structures, thus covering design and technology (Thurairajah, Palliyaguru & Williams, 2011); whereas construction management can be defined as a discipline with principles of management that are applicable to the construction industry (Thurairajah, et al., 2011).

The built environment field covers a wide diversity of concerns and actions in relation to the development and management of human society's living environments (Chapman, 2009). Places where:

> …interactions between populations, human activities and the environment…for a secure, just and environmentally sustainable future are among the most complex and interdependent issues with which society must deal (Cortese, 2003, p. 16)

Such a field is generally not regarded as a discrete traditional profession or academic discipline in its own right, instead it draws upon areas such as law, management, geography, design, technology, economics and politics (Chynoweth, 2009). As such it utilises a wide variety of established fields of research such as: natural sciences, social sciences, the arts and humanities (Fellows & Liu, 2008), each with its own approach to philosophy and methodology (Knight & Ruddock, 2008). There is clearly a broad variety of ontological and epistemological approaches for doctoral research in the built environment, particularly when it is considered across the multiple contexts of: inception, design, construction, occupation, and adaptation over its life cycle; and in relation to the multiple groups of those involved in its process over time (Cairns, 2008).

Numerous authors have cast doubt on the theoretical knowledge base for the built environment field (Loosemore, 1997; Brandon, 2002; Chynoweth, 2009). They argue that the identity of the built environment, in terms of the traditional construction and property professions from which it has emerged, neglects the established literature on disciplinary characteristics. The fragmented nature of the built environment therefore increases the complexity to understand the interactions between it and its field of disciplines, and further still, to ultimately contribute to an inter-disciplinary strategy for knowledge creation (Howieson, 2011).

Chynoweth (2009) emphasises the clear distinction that Jantsch (1972) draws between true inter-disciplinarity and lesser concepts. For example, multi-disciplinarity occurs where a variety of disciplines are engaged simultaneously in circumstances where the plausible relationships between them are made explicit (Haigh & Amaratunga, 2010), which reflect basic themes of society or need areas rather than their own disciplinary identities (Chynoweth, 2009). Integration involves a state of pluri-disciplinary, which requires the different disciplines to come together so as to enhance the relationships between them (Haigh & Amaratunga, 2010). Communication between the disciplines is encouraged but not coordinated, and left mainly to chance. In contrast cross-disciplinary introduces an element of coordination into the relationship between disciplines (Haigh & Amaratunga, 2010).

However, a major barrier to this approach in the built environment is the long-established tradition of highly focused professional practitioners cultivating a protective (and thus restrictive) boundary around their knowledge base. This occurs

where one discipline imposes its own disciplinary concepts and ideas on the others, resulting in a relationship that is more about control than cooperation (Haigh & Amaratunga, 2010). For example, in the construction management discipline, Koskela and Kagioglou (2005) argued for the possibility of a unified theory of the built environment field grounded in scientific rationality, whilst others (Boyd, 2007) opposed the notion. Therefore, when Seymour, Crook and Rooke (1997) advocated an approach to construction management research outside this dominant ontological stance, they were considered by some as being in danger of promoting an anti-scientific attitude (Runeson, 1997). Raftery, McGeorge and Walters (1997) postulated the need for contemplation of how different disciplines can be brought to bear in a more unified approach to resolving the complex nature of the built environment field. After considering the built environment knowledge base, Chynoweth (2009) determined that the built environment incorporates a number of separate disciplines with diverse epistemologies from across the spectrum of the arts and humanities and sciences. Historically, the knowledge base has been categorised into various forms, the most widely used model to explain the nature of disciplinary differences is the one that was developed by Biglan (1973). Chynoweth (2009) argues that the definition of the built environment has failed to provide a basis for understanding the nature of its knowledge base. In this context, Chynoweth (2009) identified five subject disciplines as meaningful areas of built environment knowledge: management, economics, law, technology and design.

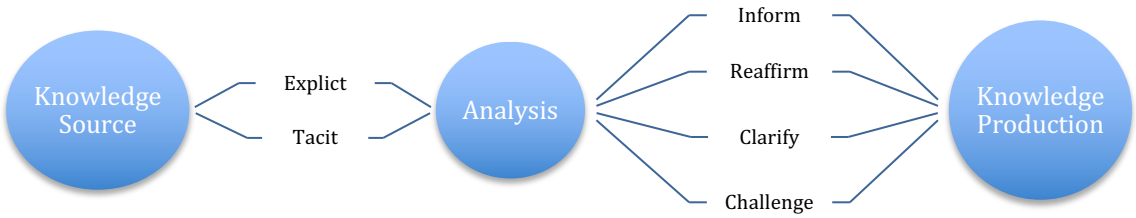
Being a diverse collection of subject disciplines, the knowledge base requires all such disciplines to be connected in order to foster relationships between them (Chynoweth, 2009). Individual disciplines need to collectively define themselves by reference to a common self-evident definition (Chynoweth, 2009). A similar view is presented by Temple (2004), who argues that identification of main concepts that make the connections and linkages between the individual subject disciplines is important in creating the interdisciplinary nature of the built environment field. He therefore identifies four concepts: design, planning, investment and management (Temple, 2004). In addition, Temple (2004) observes four subject areas that often are included in programmes for those studying the built environment: economics, law, management , sociology, and technology.

These views are evidence of the need for a common axiomatic definition through the process of facilitating the common understanding and then restructuring the discipline around the shared theoretical axiomatic definition (Howieson, 2011). Through this process, disciplinary boundaries could transform to achieve new areas of research and knowledge (Howieson, 2011).

1.7 Theoretical Model for Doctoral Research in the Built Environment

Based on the literature and the evidence presented, a theoretical model for doctoral research in the built environment is proposed (Figure 1). This provides a visual conceptual tool that will allow the Practitioner to understand the overall research process.

Figure 1: Theoretical Research Model



Furthermore, engaging with a conceptual framework when developing a thesis is seen as an essential prerequisite for the Practitioner to achieve doctorateness. Examiners place importance on the significance, role and use of conceptual frameworks in a doctoral thesis (Trafford & Lesham, 2002). This has been has defined as "…the current version of the researchers map of the territory being investigated." (Miles & Huberman, 1994, p. 33). Implicit in their view is that the framework evolves over time, rather than being set in stone. Weaver-Hart (1988) stresses its importance as "…tools for researchers to use rather than totems for them to worship" (Weaver-Hart, 1988, p. 11), viewing the conceptual framework as "A structure for organising and supporting ideas; a mechanism for systematically arranging abstractions" (Weaver-Hart, 1988, p. 11). Therefore, Based on the literature survey of these findings and that of others (King, Keohane & Verba, 1994; Blaxter, Hughes & Tight, 1996; Cohen, Lawrence & Morrison, 2000; Bouma 1993), a conceptual framework is beneficial for use within the theoretical research model to enable the Practitioner to structure the overall process and then be able to audit that process as it evolves. In summation, a

conceptual framework provides a theoretical overview of intended research and order within that process (Figure 2).

Figure 2: Conceptual Framework

The driving influence behind the conceptual framework is to force the Practitioner to be explicit about what he thinks he is doing, and to assist the Practitioner in:

- Being selective;
- Deciding the important features that influence the research;
- Deciding important relationships between theories;
- Deciding what data to collect and interpret;
- Creating a self-audit facility

1.8 Summary

There are boundaries, within which each built environment discipline develops its own academic and professional knowledge and skills, with self-imposed boundaries in the way that knowledge and skills are valued. In universities the built environment disciplines are areas of expertise organised into highly specialised areas of academic knowledge and professional disciplines. There are issues concerning the relations of power exercised through the interaction of the different epistemologies and ontologies of built environment disciplines. However, it is not useful to consider the

built environment knowledge base by reference to a collection of isolated and specific disciplines because it hides many of its underlying properties, which are multi-disciplinary in nature, and is thus not entirely helpful to the Practitioner. For the Practitioner to be able to contribute new knowledge it is important that a suitable theoretical model is developed; and when developing new knowledge, a research strategy is important for situating further study in the relevant knowledge base of the built environment. The Practitioner may then draw upon a variety of appropriate research methods. When researching new knowledge, a conceptual framework is important for situating further study in the relevant knowledge base of the built environment.

CHAPTER 2 DEVELOPING THE FOCUS FOR THE RESEARCH STUDY

2.1 Introduction

Chapter 2 examines reflective practice and argues that critical reflection can enhance professional practice and generate ideas for scholarly research. It also allows the reader to connect with the relevant background of the Practitioner and demonstrates how he established the aim and objectives for the research study through critical reflection on his own practice and analysing research gaps in the literature.

2.2 Theories of Reflection

Reflective practice involves the integration of theory and practice (Thompson, 2000), however the theory base underpinning it has remained relatively underdeveloped in regard to its relative importance (Thompson & Pascal, 2012); despite Schon's (1983) seminal work on reflective practice, his original view has not advanced a great deal further (Thompson & Pascal, 2011). The literature suggests that there are debates as to the meaning and significance of reflection and the ways in which it can be interpreted (Reynolds, 2012). For example, Fook, Ryan and Hawkins (2000) state that it is still not fully understood what actually happens when knowledge is integrated into practice, or exactly how knowledge is generated from practice. Furthermore, recent studies carried out by Thompson & Pascal (2012) and Fook, White and Garner (2006) demonstrate that in some respects reflection is simply viewed as:

> … a superficial discussion of having paused for thought occasionally, with no evidence of critical analysis, no links to an underlying professional knowledge base and no indication of being able to establish new learning and knowledge from experience (Thompson & Pascal, 2012, p. 319)

However, such a simplistic view is very different from the complexities involved in truly reflective practice. Nevertheless, constructive steps have been, and are continuing to be made in developing a more complex explanation of the understanding of reflective practice (Fook & Gardner, 2007; Fook, White, & Gardner, 2006; Thompson & Thompson, 2008). Despite this, reflective practice has proven very influential in fields such as Nursing (Jasper, 2003, Moon, 2004; Taylor, 2006) and Social Work (Gould & Taylor, 1996; Lovelock, Lyons Powell, 2004), and is increasingly being integrated into management (Bates, 2004) and law (Hinett, 2002).

Boud, Keogh and Walker (1985) describe reflection as a mental process that is applied in situations where "…people recapture their experience, think about it, mull it over and evaluate it…" (Boud et al, p. 19). The work of Dewey (1916, 1933) and Habermas (1971) are considered the cornerstone of reflecting on experience (Reynolds, 2012). Dewey (1916) viewed reflection as thinking about a complicated or baffling problem while in a state of doubt, uncertainty or difficulty. Habermas (1971), considered reflection as a tool used in the development of particular forms of knowledge, through insights gained from critical self-reflection; so that one can recognise the correct reasons for a particular problem leading to suggestions for solutions that can be tested (Moon, 2004). More recently, Moon (2004), a leading commentator on reflection and experiential learning, suggests that:

> Reflection is a form of mental processing – like a form of thinking that we may use to fulfill a purpose or to achieve some anticipated outcome or we may simply 'be reflective' and then an outcome can be unexpected… (Moon, 2004, p. 82)

According to Mezirow (1998) reflection becomes 'critical' reflection when it extends to a process of analysis, whereby an understanding of assumptions and values, which form the basis of judgments and actions, is developed.

Claxton (1999) views reflection as most useful when it is applied to situations for which there are no obvious answers. He suggests that reflection is "…learning to learn… what to do when you don't know what to do" (Claxton, 1999, p. 18). The process of reviewing and exploring can help challenge previous understanding (Kennison & Misselwitz, 2002), which Mezirow (1998) explains as "…learning to think for oneself…becoming critically reflective of assumptions and participating in discourse to validate beliefs, intentions, values and feelings" (Mezirow, 1998, p. 186).

Critical reflection is becoming more universally accepted as the most important aspect for reflection (Smith, 1998). By not taking situations at face value, but taking an analytical approach "…helps practitioners…move beyond taken-for-granted assumptions that may…be informed by prejudice…" (Thompson & Pascal, 2012, p. 321).

Christenson (2001) makes the important point that:

> …society that values creativity…needs to enable criticism. If we cannot question the way we are doing things and thinking about things at present, it

> will not occur to us that they could be thought of or done differently (Christenson, 2001, p. 87)

2.2.1 Reflective Practice

Reflective practice is advocated as a means of learning about practice, exploring it through the application of critical reflective thinking concerning a particular problem or event (Smith, 2009; Thompson & Pascal, 2012). Whilst the term reflection may be used to refer to critical thinking, reflective practice is a formal process with a view to developing a professional's understanding in the context of their previous experience, knowledge, values and beliefs (Moon, 2004).

Schon, (1983, 1987, 1992) whose seminal work has been the inspiration of much work on reflective practice in the professions (Thompson & Pascal, 2012), was critical of what he referred to as technical rationality, i.e. the view that professionals simply utilise technical knowledge and apply it to a problem in a direct way with nothing in between (Thompson & Pascal, 2011). However, Schon's work on reflection-in-action and reflection-on-action showed that the professional knowledge base is much more complex than that.

Reflection-in-action is the ability of the professional to think about what they are doing while they are doing it (Schon, 1983). In other words, to think on their feet using intuition, experience, skill and wisdom, of which the professional may or may not be consciously aware (Schon, 1983). Such tacit knowledge is difficult to express in words, these "…are things that we know but cannot tell" (Polanyi, 1962, p. 605). In contrast, Schon considered that the truly reflective professional is conscious of what they are doing and also of how they are doing it and that to reflect-in-action requires a point at which reflection takes place (Rolfe, Freshwater & Jasper, 2001). However, Manen (1995) and Copeland, Birmingham, Cruz and Lewin (1993) consider that there is no time in practice to reflect-in-action; paradoxically this makes it more important to emphasise the value of reflection (Hedberg, 2009). Court (1988) suggests re-naming the process 'deliberation' because the action is a more problem focused activity rather than reflection.

Conversely, reflection-on-action involves the professional reflecting on their experience retrospectively, by looking back and critically analysing a particular situation (Schon, 1983). Boud et al (1985) suggest that this involves three aspects:

> …returning to experience and recalling or detailing salient events; attending to feelings, i.e. using helpful feelings and removing or containing obstructive ones; evaluating the experience by re-examining it in the light of one's aims and knowledge and integrating this new knowledge into one's conceptual framework (Boud et al, 1985, p. 26)

Therefore, reflecting on a given situation after the event may include reflecting on the outcome of reflection while in-action i.e. on the professional's internalised cognitive processes that played a part in dealing with the situation.

Schon's influence has been to emphasise the importance of reflecting critically, as part of understanding the embodied knowledge and behaviour characteristic of the professional who acts and makes intuitive judgments in a conscious and knowing way (Reynolds, 2012). The distinguishing characteristic of reflective practice can be seen as critically learned practice, or as Proctor (1993) contends, the process of being the objective observer, a view which resonates with Schon's reflection-on-action.

However, Schon's work has been criticised for being too individualistic, i.e. paying little or no attention to the wider social context or 'being-in-the-world' (Bowring, 2000). This could potentially have a significant influence on how the professional makes sense of the situations they are dealing with in practice, when reflecting (Thompson & Pascal, 2011). Consequently, this further dimension means that the professional needs to consider not only their own practice environment, but also the wider social context in which they exist in order for them to understand how they see the world, which Brechin, Brown and Eby (2000) argue takes into account "…different perspectives, experiences, assumptions and power relations…wider ethical dilemmas, strategic issues, policy frameworks and socio-political contexts" (Brechin, Brown & Eby, 2000, p. xi). This is considered important in shaping professional practice (Atkins, 2004; Cottrell, 2005; Atkins & Schultz, 2013), and also for reflective practice to be effective (Raelin, 2001; Vince, 2002; Trehan & Peddler, 2009; Ram & Trehan, 2010).

However, the idea of the broader approach to critical reflection is not always welcome. According to Gibson (1986), to think from a critical perspective "…puts traditional notions of objectivity into question and is constantly alert to attempts to pass off sectional viewpoints as universal, natural, classless, timeless ones" (Gibson, 1986, p. 172). Although, as Freire (1972, cited in Moriarty, Danaher & Danaher, 2008) observed, addressing social and political change, to reflect from a critical perspective means '…to

exist, humanly, is to name the world, to change it" (Freire, 1972, p. 88, cited in Moriarty et al, 2008). The professional does not engage in reflection in a social vacuum, they will begin from a particular standpoint in conjunction with the people they work with, who will also have their own standpoint (Thompson & Pascal, 2011). It is therefore inevitable that these factors will influence how the professional sees the world and how they make sense of situations they are dealing with in practice (Swain, French, Barnes & Thomas, 2004). Knowing what to reflect on out of one's practice is not always a clear process and the "…more it is focused upon, the more the truly important issues become elusive" (Bolton, 2009, p.8). However, by developing a reflective process "…we…" aim to "…attend to the untold…" (Sharkey, 2004, p. 508). Reflection-in- and reflection-on-practice has been described as a process that makes it possible for practitioners to learn from "…experience about themselves, their work, and the way they relate to…wider society…" (Bolton, 2009, p.3).

What follows is the Practitioner's bridge from theory into practice to develop the focus of the research study.

2.3 Theory into Practice - Focus for the Research

The Practitioner is the principal of a professional practice providing advice and assistance primarily to contractors in construction law, involving non-contentious work and dispute resolution in the UK construction industry. He is also an accredited construction adjudicator appointed to investigate disputes between parties in construction contracts and provide what is called a written 'Decision' deciding the outcome of a dispute.

The Practitioner's decision to read for a Professional Doctorate emanated from his own practice. He realised, reflecting on particular cases allowed him to consider them from a distance and that he was not to be afraid to reach out to influences beyond his mental representation of his practice environment. In the world of construction disputes, the Practitioner often finds himself faced with unique, complex, and uncertain situations; as Schon (1983) comments:

> The practitioner allows himself to experience surprise, puzzlement, or confusion in a situation he finds uncertain or unique. He reflects on the phenomenon before him, and on the prior understandings, which have been implicit in his behaviour (Schon, 1983, p. 68).

Critical reflection upon prior experiences, contexts, situations, background and education can lead to what Giddens (1984) calls 'knowledgeability' (Mackenzie & Ling, 2009) potentially leading to informed, empowered and transformative action (Giddens, 1984).

The focus for research started to emerge from the Practitioner's personal and political concerns towards disputes in the contractual relationship between subcontractors and main contractors. As Back (2007) says, "Trust your own interest…the indulgence of individual inquisitiveness is part of what is precious about sociological research" (Back, 2007, p. 173). This was supported by the Practitioner's ongoing conversations and critical reflections on professional experiences in handling complex construction disputes and engaging with the literature. The Practitioner initially found it difficult to tease out examples of the interplay between reflection and practice. Engaging in reflection enabled the Practitioner to discover a new way to voice what he refers to as practice research because as Weiss & McAlpine (2000) put it: "The construction of narratives is a useful tool for studying the lived experiences of individuals who may have different roles and/or perspectives" (Weiss & McAlpine, 2000, p. 3). It has helped the Practitioner develop meaning out of the material being studied and establish his own voice and write his work for particular audiences (Chase, 2005).

The process was not sequential, rather it was a process which progressed while allowing opportunities for revisiting ideas, thoughts and literature in a recursive manner. These were discussed with the Practitioner's supervisor who provided enthusiastic support and guidance. As the process was being conducted within the Practitioner's professional practice experience, he is a part of the context of the research study, and also as a participant observer.

One of the main aspects of the Practitioner's practice involves him dealing with cases concerning contentious complex contractual problems between subcontractors and main contractors. By engaging in critical reflection on various cases, the Practitioner has discovered that disputes are commonplace concerning practical problems encountered by the parties in the governance of written subcontracts.

In the Practitioner's experience, main contractors usually provide subcontractors with some form of subcontract documents, either in bespoke form or an industry standard form (e.g. JCT standard form of building subcontract), very often amended giving main

contractors legal leverage. Furthermore, subcontract documents are often formed by main contractors using documents prepared by different parties, and administered by personnel with seemingly limited or no experience and knowledge of the legalities of the subcontract.

The majority of agreements between main contractors and subcontractors that the Practitioner encounters are discrete classical subcontracts performed under a traditional procurement route. On the one hand, subcontract agreements may take the form of a simple exchange of correspondence outlining the most immediate and seemingly important aspects of price and scope of works. Conversely, in what seems to be an attempt to deal with the uncertainties during the construction stage of projects, contractual provisions of subcontracts may be complex and highly elaborated with the perceived aim of having clauses to deal with all possible contingencies and their effects.

In addition, the Practitioner has experienced parties' attitudes toward the formality of agreeing subcontracts tend to vary with staff roles and personalities within the organisation. For instance, some people prefer a greater degree of advance planning, while others regard contract formalities as an impediment to pre-contract negotiations. However, subcontractors are usually not willing to start work without some contractual protections in place, particularly concerning payment. Therefore, main contractors often construct and rely upon informal devices to signal commitment, such as, and most notably letters of intent.

Furthermore, the underlying practical and commercial realities of construction projects cause parties to make forced agreements which lack clear thinking, and are filled with unclear and unconsidered documents. Projects sometimes involve protracted correspondence in the tender period leading up to the making of the subcontract, and work often starts before any subcontract is agreed, if at all. In many cases the Practitioner has encountered main contractors who consider the terms and conditions of the subcontract to be non-negotiable, placing all or most of the risk to subcontractors with punitive clauses.

The Practitioner has discovered that parties frequently fail to comply with the written procedures of subcontracts, due to the constraints of normal project working relations and ignorance. In addition, uncertainty and confusion is often created for the parties

with ambiguities in or between subcontract documents that need to be resolved. This can lead to interpretation disputes about what the parties agreed, causing difficulty for parties' understanding, as it pits the authority of the written subcontract against the parties' relational norms.

Consequently, the Practitioner has discovered that disputes occur concerning the practical problems encountered by subcontractors and main contractors in the formation and governance of written subcontracts. This led the Practitioner to question the practical problems encountered by parties, in the agreement and application of written subcontracts. In conjunction with the Practitioner's own preliminary investigation into the causes of disputes, he considered previous studies from the literature that have attempted to identify the causes.

2.4 Construction Disputes from Established Research

The problems caused by disputes in the construction industry in the UK is a widespread phenomenon (Ilter, 2012; Akintan & Morledge, 2013). The overall adverse impact of disputes on construction projects and the parties involved can be far reaching (Hatomoko & Scott, 2010; Akintan & Morledge, 2013). Subcontractors undertake the majority of work (and specialist design) on construction projects involving a variety of organisations unrelated to each other, and existing in an essentially isolated relationship with a main contractor (Bishop et al, 2008; Humphreys, Matthews & Kumaraswamy, 2003; Matthews, Pellew, Phua & Rowlinson, 2000). Consequently, a main contractor's task of procuring and managing various subcontractors is often fraught with difficulty (Bishop et al, 2008).

Disputes affect the construction process often at considerable cost and disruption to parties (Love, Davis & Ellis, 2010a). According to Love et al (2010a) direct costs associated with disputes can be as much as 5% of a projects contract value. Research in the construction industry in the UK, albeit limited in scope, may provide some indication of the scale of the problem. It suggests that the cost of disputes experienced by the author's research of in-house construction disputes has risen by about 400% from 2012 to 2016 (Harris & Arcadis, 2012, 2013, 2014, 2015, 2016). This research indicates that it is due to a combination of an increase in the value of disputes and the number of disputes occurring. Either way, it represents a significant rise.

Additionally, according to research by Malleson (2015) the value of disputes is far from trivial. In regard to a questionnaire survey in which 981 participants responded, the results indicated that the respondents were involved collectively in approximately 800-900 separate disputes in 2014 to 2015. Of the disputes mentioned in the survey more than 50% had a value greater than £250K, and 18% had a value greater than £5M. The same type of research was carried out again in 2017 (Malleson, 2018) with fewer responses consisting of a questionnaire survey in which 361 participants responded. Of the disputes mentioned in the survey more than 44% had a value greater than £250K, and 12% had a value greater than £5M. Still a significant rise.

Indirect costs, on the other hand, resulting from loss of quality, strained business relations, loss of productivity, stress and delay may cause more damage to the project and parties involved (McGeorge & London, 2007). Over 20 years ago Jones (1996) had this to say: "We have had enough of disputes within the construction industry. Government, the industry and its clients want to see an end to them: they are expensive and damaging to the industry's productivity and reputation" (Jones, 1996, column 54). Little has changed since this statement was made.

There is little doubt that the cost of disputes alone is significant. They reduce profits, are often time consuming and lead to ill-feeling between parties, sometimes destroying business relations. As such, prevention of disputes becomes an important consideration, which depends on a sound understanding of the root causes (Awakul & Ogunlana, 2002). Fenn, Lowe and Speck (1997) noted a lack of empirical data to justify the various theories for the causes of disputes at the time of their study, and according to Love, Edwards, Irani and Walker (2008) that situation remained unchanged 13 years later. In addition, Love et al (2008) argue that most of the research available simply seeks to identify a list of circumstances that show some relationship with disputes but not the underlying causes. Mitkus and Mitkus (2014) support this view arguing that the research is not necessarily based on any in-depth empirical studies that seek to identify the root causes. They claim that the research erroneously presents particular circumstances as root causes such as variations to scope, project delays, late payment, which may act as a catalyst for disputes, but they are not the root causes.

A snapshot of the key research studies that have explored the potential causes of disputes is presented (Table 2). They identify very similar findings of what are considered the causes of disputes.

Table 2: Sources of Dispute from Literature

Citation	Source of Potential Dispute	Research Method	Country	Participants
Malleson (2018)	Delay; valuation of variations; valuation of final account; money claims; defective work; payment; valuation of interim payment; contract administration; termination of contract; contract interpretation; site access; delayed decision making	Questionnaire (981 responses)	UK	Client/Consultant/Main Contractor/Subcontractor
Harris and Arcadis (2016)	Failure to administer contract properly; incomplete design information; failure to understand contractual obligations	Based on construction disputes handled by E C Harris	UK	Client/Main Contractor/Subcontractor
Harris and Arcadis (2015)	Failure to administer contract properly; poorly drafted claims; errors in contract documents; failure to understand contractual obligations	Based on construction disputes handled by E C Harris	UK	Client/Main Contractor/Subcontractor
Malleson (2015)	Delay; valuation of variations; valuation of final account; money claims; defective work; payment; valuation of interim payment; contract administration; termination of contract; contract interpretation; site access; delayed decision making	Questionnaire (981 responses)	UK	Client/Consultant/Main Contractor
Harris and Arcadis (2014)	Failure to understand contractual obligations; failure to administer contract properly; incomplete design information; poorly drafted claims; variations	Based on construction disputes handled by E C Harris	UK	Client/Main Contractor/Subcontractor
Farooqui and Azhar (2014)	Poor design; low tenders; incorrect contract type; exaggerated claims; information flow; unfair/unrealistic risk allocation	Questionnaire (45 responses)	Pakistan	Contractors of various categories
Harris and Arcadis (2013)	Failure to administer contract properly; failure to understand contractual obligations; conflicting party interests; inequitable risk transfer; variations; poorly drafted claims	Based on construction disputes handled by E C Harris	UK	Client/Main Contractor/Subcontractor
Xiao, Guomin, Bo and Yingbin (2013)	Subcontract agreement; high levels of risk; self-interested parties; time, money and resource constraints	Literature	General	General
Malleson (2013)	Delay; valuation of variations; valuation of final account; money claims; defective work; payment; valuation of interim payment; contract administration; termination of contract; contract interpretation; site access; delayed decision making	Questionnaire (1000 responses)	UK	Client/Consultant/Main Contractor

Citation	Source of Potential Dispute	Research Method	Country	Participants
Akintan and Morledge (2013)	Lack of collaboration; mistrust; payment; disruption/delay; harsh contractual terms; management; inequitable transfer of risk; contract documents	Questionnaire (37 responses) and interviews	UK	Main Contractor/Subcontractor/ Client/Consultants
Malleson (2012)	Behaviour; delay; valuation of variations; valuation of final account; money claims; defective work; payment; valuation of interim payment; contract administration; termination of contract; contract interpretation	Questionnaire (1000 responses)	UK	Client/Consultant/Main Contractor
Harris and Arcadis (2012)	Failure to administer contract properly; conflicting party interests; inequitable risk transfer; variations; ambiguous contract documents	Based on construction disputes handled by E C Harris	UK	Client/Main Contractor/Subcontractor
Love, Davis, Cheung & Irani, (2011)	Unclear documentation; variations; errors in documentation; delay and disruption	In-depth interview (48 no.)	Australia	Project Directors/Quantity Surveyors/Architects/Arbitrators/Contract Administrators
Love et al (2010a)	Contract interpretation; contractual procedures; defects; opportunistic behaviour; poor planning; uncertainty; variations; contract document errors	Analysis of 200 court judgments, and two focus groups (1) main contractor (2) client with 6 participants per group	Australia	Main Contractor/Client
Ohrn and Rogers (2008)	Document interpretation	Literature	USA	General
Yiu and Cheung (2007)	Delay; unrealistic expectations	Literature	Hong Kong	General
Cheung and Yiu (2006)	Behaviour; contract documents; unrealistic expectations	Literature	General	General
Blake Dawson Waldron (2006)	Site access; contract interpretation; variations; poor communication; delay; site conditions; quality of design	Questionnaire (190 responses)	Australia	Client/Main Contractor/Consultant
Killian (2003)	Variations; Quality/defects	Analysis of court judgments	USA	General
Brooker (2002)	Payment; delay; defect/quality; professional negligence; variations; contractual provisions; site conditions	Questionnaire	UK	Lawyers

Citation	Source of Potential Dispute	Research Method	Country	Participants
Al Sabah, Fereig and Hoare (2002)	Delay; variation orders; defective information; Indirect damages; Quantity variations; Site conditions; Site access; Contract documents; Lack of co-ordination	Survey of tribunal findings	Kuwait	Unknown
Mitropoulas and Howell (2001)	Uncertainty; contractual problems; opportunistic behaviour; culture; money	Analysis of 14 projects with 24 claims in total	USA	Client/Main Contractor
Kumaraswamy (1997)	Site conditions; variations; design errors; ambiguity in contract documents; weather; information flow; delay; poor communication	Analysis of 61 projects and 46 responses to questionnaires	Hong Kong	Client/Consultant/Main Contractor
Conlin, Lanford and Kennedy (1996)	Payment; performance; delay; negligence; quality; administration	Analysis of 21 projects	UK	Client/Consultant/Main Contractor
Sykes (1996)	Contracts; uncertainty; unforeseen circumstances	Literature	General	General
Bristow and Vasilopoulos, (1995)	Unrealistic expectations; lack of team spirit; misunderstandings; poor communication	Literature	Canada	General
Heath, Hills and Berry (1994)	Contract interpretation; payment; variations; delay; nomination; information flow	Questionnaire 28 respondents, and five case studies	UK	Quantity Surveyors
Rhys-Jones (1994)	Management; culture; communication; design; economics; tendering; law; unrealistic expectations; contracts; quality	Questionnaire	UK	Client/Main Contractor/Engineer/Architect/Lawyer
Diekmann, Girard and Abdul-Hadi (1994)	People; process; product	Analysis of 22 projects	USA	Client/Main Contractor/Consultant
Semple, Hartman and Jergeas (1994)	Acceleration; site access; weather; variations	Analysis of 24 projects	Canada	Client/Main Contractor/Consultant
Watts and Scrivener (1993)	Termination of contract; payment; site conditions; delay; final account	Analysis of 72 court judgments	Australia	Unknown
Spittler and Jentzen (1992)	Ambiguous contract documents; adversarial behaviour; risk	Literature	USA	General
Totterdill (1991)	Technical; contracts	Literature/Experience	UK	General
Hewitt (1991)	Variations; change of conditions; project delay/disruption; acceleration of works; termination of contract	Analysis of court judgments	Australia	Unknown

With regard to Table 2, Love et al (2008) identify studies by Bristow and Vasilopoulos (1995) and Kumaraswamy (1997) of poor communication as a potential cause of disputes. They argue that simply identifying poor communication does not explain the underlying cause. In fact, the causes of disputes identified in Table 2 seem to raise more questions than they propose to answer. As an example, is Heath, Hills and Berry's (1994) categorisation of "contract interpretation" as a cause of disputes the same as Mitropoulos and Howell's (2001) categorisation of "contractual problems"? One cannot simply assume that it is. There is a lack of contextual meaning that lies behind, and trying to unearth this might be impossible, since what originally gave rise to a particular dispute may never be truly known in many instances (Fenn et al, 1997; Love et al, 2008).

Another example of the potential cause of disputes from Table 2 - variations to scope (see for example, Killian, 2003; Harris & Arcadis, 2014) is considered. Variations that change the scope of the works present factual circumstances inherent in most all construction projects. But variations are simply a change in work scope. If a variation is properly instructed, administered and valued in accordance with the provisions of the subcontract it should in theory not give rise to a dispute. However, a dispute may occur because the provisions in the contract are ambiguous or impractical to use, the parties may interpret the valuation procedures differently or they may ignore them all together, preferring instead to adopt their own informal and flexible methods. In addition, one party may act out of self-interest or lack sufficient technical knowledge, or a combination of the two. Therefore, it can be seen that simply identifying variations as a cause of disputes is not identifying the root cause.

The studies shown in Table 2 were quite diverse in their methodological approach in attempting to reveal the causes of disputes. The main research methods used were questionnaires, case judgments and literature, representing about 68% of the studies. Only about 6% involved interviews, and 23% were based on secondary literature with 35% making up analysis of disputes that arose on construction projects.

Studies conducted in the UK represent about 45% with the remainder in various other countries, notably Australia. It is not known between whom the disputes arose, i.e. client and main contractor or main contractor and subcontractor or some other combination. What is very clear from the studies is the generalised manner in which

data was collected i.e. from clients/consultants/contractors in an apparent ad-hoc fashion. The studies do not necessarily focus specifically on particular contractual relationships typical in the construction industry, for instance, client – main contractor; main contractor – subcontractor; client – consultant, and so on.

The studies therefore do not differentiate between the potential causes of disputes that may arise between the various contractual groups. It may be the case that the same causes of disputes occur between the various groups, but without further research into this issue it remains unknown. Nevertheless, the most striking observation concerning the previous studies for the purposes of this research study is the lack of empirical research concerning the causes of disputes specifically between main contractors and subcontractors. Given the importance of subcontracting practice and the frequency with which disputes arise between these two groups, this identifies a significant gap in the research. Additionally, previous studies devote little attention to the most distinctive product of most subcontractual relationships – the subcontract documents.

Consequently, a more in-depth understanding of "how" and "why" disputes arise between main contractors and subcontractors in the governance of subcontract documents is much needed (Mitkus & Mitkus, 2014; Love et al, 2008). This is clearly evident because disputes are still prevalent today despite the studies; a better understanding of the underlying causes is necessary. Previous studies provide a source of data to aid understanding but lack in-depth contextual meaning about how events unfold that ultimately lead to disputes. This strongly indicates that many of the strategies aimed at reducing or preventing disputes are founded on research that does not identify the root causes. As a result, if the causes of disputes are to be understood, narrowly targeting the reduction of, for example, variations is not just ineffective, it is be self-defeating as it distracts from the search for the root causes.

A subcontractual relationship is usually underpinned by written subcontract documents (drawings, bills of quantities, specifications, performance requirements, terms and conditions etc). They are a formally documented arrangement for administering the contractual relationship, and according to Clegg (1992) they are the principal contractual framework that shapes the activity of parties' relationship and behaviour. In practice however, it is usually a challenge for parties to comply with such

documents when dealing with the ramifications of high levels of risk and the practicalities involved in the design and construction of buildings (Jin, Zhang, Xia, Feng, 2013). Sykes (1996) recognised this by postulating that disputes originate from two main interrelated factors: contract documents and unexpected project risks. Fenn (1997) argue that analysing the causes of disputes is difficult because of varying different reasons for any particular dispute, but they nevertheless consider that the literature shows that contract documents are present in each case. This supports the work of Clegg (1992) who argued that construction contracts are generally the primary cause of disputes.

The basic maxim often expressed concerning disputes is that, prevention is better than cure. In terms of dispute avoidance, recommendations contained in two high profile reports, Latham (1994) and Egan (1998), raise pertinent points concerning the use of construction contracts generally. The reports make a number of recommendations to reduce the adversarial nature of the construction industry, such as advocating that parties undertake construction projects in a contractual relationship of trust and cooperation. In relation to the use of construction contracts, Latham (1994) recommended using contracts that serve the construction process and not vice versa, whereas Egan (1998) took a more radical approach and posited the view that construction contracts should be replaced entirely with performance requirements arguing that excessive reliance on formal contracts contributes to fragmentation in the UK construction industry. Egan commented that:

> Contracts can add significantly to the cost of a project and often add no value for the client. If the relationship between a constructor and employer is soundly based and the parties recognise their mutual interdependence, then formal contract documents should gradually become obsolete. The construction industry may find this revolutionary. So did the motor industry, but we have seen non-contractually based relationships…we know they work… (Egan, 1998, p. 30).

Egan provided an example of the non-formal contract relationship between Nissan UK and Tallent Engineering:

> Nissan…and Tallent…have no formal contract beyond an annual negotiation of the cost and quality of the rear axles…If a problem was to occur with quality…resulted in a significant loss of production, Nissan would expect to compensate Tallent for lost business or vice versa… (Egan, 1998, p. 30).

The most instructive point to make concerning Nissan's relationship with Tallent is there relationships with its supply chain (subcontractor organisations) in the UK construction industry, they "…use similar no-contracts relationships with the forms delivering their construction projects…" And "…Nissan's…supply chain management system is acknowledged to be among the most effective in the world…" (Egan, 1998, p. 30).

In conjunction with the Practitioner's own findings, the literature review has revealed a need for further empirical research in the search for the root causes of disputes. A number of research gaps have been identified for further research as follows:

- There is a range of published studies indicating the potential root causes of disputes with empirical data being obtained from various parties in various construction industries. However, there is a need to conduct further research in the UK Construction industry into the root causes of disputes specifically between main contractors and subcontractors.
- Research studies into the potential causes of disputes are quite diverse in their methodological approach, ranging from questionnaires to the analysis of project data on disputes, using secondary data from published legal sources. However, there is a need to conduct further research concerning the most distinctive product of a contractual relationship, subcontract documents.

These research gaps are interrelated, and in conjunction with the Practitioner's own preliminary investigation into the causes of disputes from his own practice, form the basis of the aim and objectives of the research study.

2.5 Narrowing the Focus – Aim and Objectives

There is always a danger of attempting too much. The focus of research must be of the appropriate size "…due to the necessity of maintaining a manageable project for one person…" (Rudestam & Newton, 2007, p. 21). Defining the research too widely "…will usually…" result in the researcher "…unable to say anything of great depth about it…" (Silverman, 2006, p. 80). Wolcott (2001) put this succinctly when he said: "Do less, more thoroughly!" (Wolcott, 2001, p. 128). Mindful of this, the Practitioner realised that narrowing the focus was inevitable but also important: therefore, the Practitioner has refined the focus to an achievable research aim.

2.5.1 Aim

To identify and evaluate the potential root causes of disputes that arise between main contractors and subcontractors in the application of subcontract documents in the UK construction industry.

2.5.2 Objectives

The steps that will be taken to answer the research aim are set out in the following objectives:

- To critically evaluate the theoretical purpose and context of subcontract documents.
- To critically evaluate the nature and extent of contractual problems encountered by main contractors and subcontractors in fulfilling the main purposes of subcontract documents.
- To identify the potential root causes of disputes that arise within the main purposes of subcontract documents.
- To critically evaluate the potential root causes of disputes in the application of subcontract documents using empirical evidence from subcontractors and main contractors.
- To analytically compare the findings of the root causes of disputes from literature with causes from empirical data, and propose potential mitigating solutions.

2.6 Summary

Reflective practice is seen as a move away from the technical-rationality of applying professional knowledge in a relatively simple and direct way, providing professionals with the knowledge and understanding to realise that the reality of human life is vastly more complex. Reflecting on construction cases in his own practice involved the Practitioner stepping back from a given dispute situation, trying to make sense of it through critical analysis. It was not simply a matter of pausing for thought occasionally, it was a much more complex process of integrating personal constructs and professional knowledge with the demands of the situation, set within the broader social context in which the professional was located. The Practitioner discovered that disputes were commonplace concerning practical problems encountered by parties in the use of subcontract documents.

By reviewing the literature, the Practitioner found similarities with his own personal experience of the potential causes of disputes. However, there is a lack of empirical data to justify the theories for the causes of disputes. The research seeks to identify circumstances that demonstrate a relationship with disputes, but not the underlying causes. In addition, two interrelated research gaps were identified, most noticeably the empirical studies indicate a significant lack of research into the causes of disputes specifically between main contractors and subcontractors, and in the use of

subcontract documents. Therefore, critical reflection and simultaneously engaging with the literature enabled the Practitioner to develop a clear focus for the research culminating in the aim and objectives of the research study.

CHAPTER 3 THEORETICAL PURPOSE AND CONTEXT OF CONSTRUCTION SUBCONTRACTS

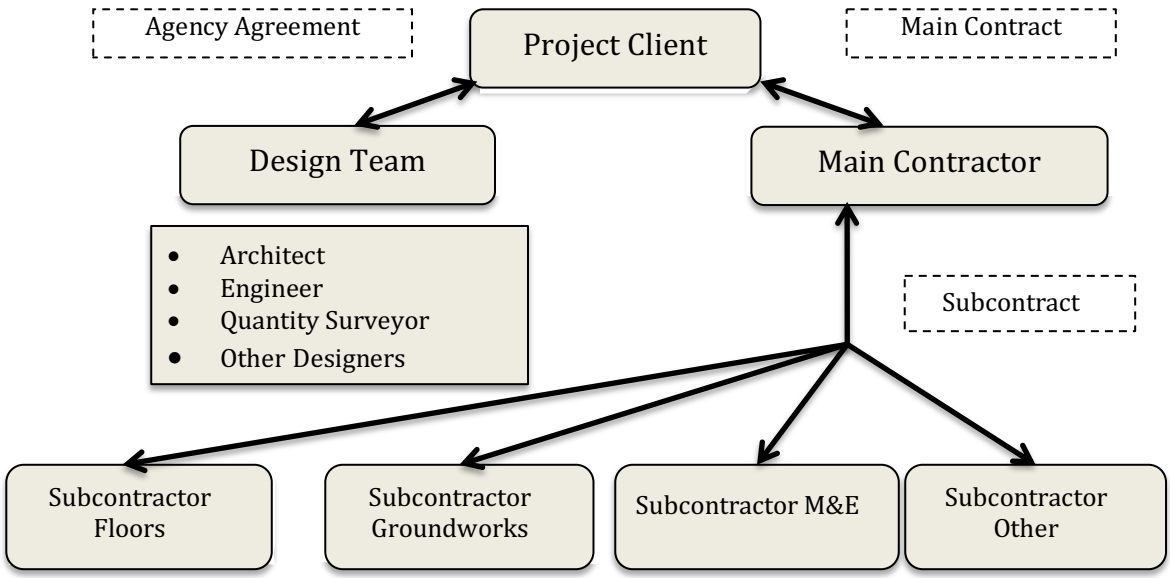
3.1 Introduction

This chapter critically evaluates the theoretical purpose and context of written construction subcontracts. This will include an explanation of subcontracting practice in the UK construction industry, to provide the context of the contractual environment in which it is embedded, and to demonstrate the importance of this practice. It then moves on to examine the functions that a subcontract is designed to fulfill, before concluding with the three main theoretical purposes in principle.

3.2 Subcontracting Practice in the UK Construction Industry

The practice of subcontracting various elements of design and construction work can be achieved under various procurement routes, such as design and build, partnering, or project management (Ramsey & Furst, 2013). However, according to Harris and Davis (2015), Akintan & Morledge, (2013), and Malleson (2013), traditional procurement remains the dominant route. This accords with the Practitioner's own experience of being involved in subcontracting practice discussed in Chapter 2. The contemporary process under this route is well documented (Bishop et al, 2008); a contractual matrix of a typical traditional construction project is presented (Figure 3).

Figure 3: Contractual Matrix of a Typical Traditional Construction Project



A project client will select and appoint professional consultants, often referred to under the collective term as the design team (architect, quantity surveyor, engineer, etc) and a main contractor to construct and manage the project in accordance with main contract documents (Briscoe, Dainty & Millett, 2001). In turn, a main contractor will usually subcontract all or substantial elements of the building project to individual subcontractors, for instance groundworks, floors, mechanical and electrical elements (Briscoe et al, 2001). The work of subcontractors is usually undertaken in accordance with some form of written subcontract document, usually void of any contractual relations with the project client by virtue of the main contract. In other words, there is no agency agreement between a subcontractor and a project client, and conversely project clients' rights and obligations are with the main contractor pursuant to the main contract (Yik, Lai, Chan, & Yiu, 2006).

In connection with this there are some main features that are applicable to a subcontractual relationship. A main contractor remains obligated to a project client for all facets of the work undertaken by a subcontractor in accordance with a subcontract (Bishop et al, 2008). This means that a main contractor remains responsible for quality, time and paying the subcontractor, irrespective of any issues that may arise between a main contractor and a project client. This is subject to any special contractual arrangements that may be adopted between the respective parties, for example, a separate design warranty between a subcontractor and a project client to cover specialist subcontractor design work (Bishop et al, 2008).

According to the Barbour ABI data on all contract awards in the UK construction industry, '…the value of all construction contracts awarded…in 2018 was £61.6billion…' (Barbour ABI, 2019). Important to the industry's survival is its heavy reliance on a high degree of subcontracting practice (Barawas et al, 2013). At least 99.9% of firms are small to medium sized enterprises, with about 83% of these employing no more than one person (White, 2014).

Subcontracting is a long-standing practice in the UK construction industry and has become more widespread in contemporary construction practice. For instance, the first edition of the standard method measurement of building works issued in 1922 contained 16 different trades (Gould, 2011), whilst the seventh edition published in 1998 refer to over 300 separate trades (Gould, 2011). Perhaps the main reason for

this is that “Modern buildings are highly complex artefacts” (Yik et al, 2006, p.1). As well as single storey buildings there are now modern building complexes comprising a multitude of functions such as offices, hotels, retail shops, and apartments, all part of the same building complex (Yik et al, 2006). In addition, advances in technology and design of building components (air conditioning, smart glazing systems, heating, cooling, lighting) have made design and construction of modern buildings more complicated. Consequently, this has created a need for specialised firms to design and install such elements of buildings (Yik et al, 2006). Furthermore, it allows main contractors the flexibility of increasing or reducing their construction capacity and thus to manage the risk of workload fluctuations (Jameison, Thorpe & Tyler, 1996).

A study carried out for Business Innovation & Skills analysed the supply chain in the construction industry in the UK which highlights the complexity of subcontracting on construction projects (Barawas et al, 2013). The report states that the construction industry is charactarised by a high level of subcontracts, and according to the data some main contractors manage up to 70 subcontractors on a single construction project. In addition, a large proportion of subcontracts are small in value (£50K or less); examples of projects from the research indicate that about 70% of subcontract values were below £10K. This supports the position that the role of subcontractors is prevalent in the construction industry under the management of main contractors (Jamieson et al, 1996). Research indicates that subcontractors perform about 80-90% of work on construction projects (Hatomoko & Scott, 2010; Akintan & Morledge, 2013). Importantly therefore, it is widely accepted that subcontractual relationships have a significant impact on the success of a building project for all parties concerned (Jin et al, 2013; Moody, Riley & Hawkins, 2008; Arditi & Chotibhongs, 2005). Such a relationship is usually embedded in some form of written agreement known as a construction subcontract.

3.3 Construction Contracts

The nature and form of contractual relationships in general have been studied by scholars from a variety of disciplines, each approaching the matter in a variety of ways and with different emphasis (Collins, 1999; Scott, 2000; Campbell, 2001; Blois, 2002; Schwartz & Scott, 2003; Macaulay, 2003; Harrison, 2004; Argyres, Bercovitz & Mayer, 2007).

Perhaps the most general description of a commercial contract is the acceptance that obligations exists between at least two parties (Rousseau & Parks, 1993). In Black's Law Dictionary, a contract is defined as "An agreement between two or more persons…" [or businesses] "…which creates an obligation to do or not to do a particular thing" (Garner, 2015, p. 322). An obligation in the context of a commercial contract creates an anticipated course of action to which the parties are legally bound (a duty or commitment) (Rousseau & Parks, 1993). One of the basic defining aims of a commercial contract from a legal perspective therefore is to record accurately the terms of the parties' agreement (Heide & John, 1990; Roxenhall & Ghauri, 2004; Baker, Gibbons & Murphy, 2008). Blomqvist, Hurmelinna and Seppanen (2005) view a contract primarily from a legalistic perspective as having three main functions: (1) to create a legally binding agreement enforceable by law; (2) to identify the contract documents that form the agreement; and (3) to provide evidence of the nature and contractual obligations and its compliance. Theoretically and correspondingly, in the eyes of the law the fundamental purpose of a contract is to enable the parties to achieve their objectives by providing a legal framework to regulate the social and commercial transaction. From a more social angle, Camen, Gottfridsson and Rundh (2012), regard the purpose of a commercial contract as the: (1) transfer of information from one party to another as a management tool; (2) to provide certainty and reduce transaction risk; and (3) to satisfy the requirement of custom and practice (Roxenhall & Ghauri, 2004). Likewise, Suchman defines a commercial contract as:

> …intricate frameworks of procedures, commitments, rights and incentives – all in order to accomplish practical objectives in the governance of human transactions (Suchman, 2003, p. 99).

What exactly a duty means and whether the parties share a mutual understanding is open to debate. A contractual agreement according to the parties often exists in their subjective understanding, and not necessarily in fact (Rousseau & Parks, 1993). Although from an objective perspective there may be common agreement that promise, payment, and acceptance have occurred, parties may have very different perceptions concerning the contents of a contract; resulting in one party being completely at odds with the other (Rousseau & Parks, 1993). As Macneil (1985) argued, all contracts are to an extent fundamentally relational i.e. existing in the

subjective minds of the parties. Therefore, at the parties' individual level, commercial contracts may be characterised by perceptions, interpretation and sense making; and in a contractual breakdown, by strong emotive reactions. Farnsworth (2004) argued that the subjectivity of contractual agreements is caused by the inherent fragmentation of contract terms and the parties' limited understanding of contracts and its legal effects. One might deduce therefore that: contracts are individualistically perceived and understood by the parties; parties' judgement is shaped by personal understanding as distinct from being objective and impartial, leading to disputes regarding contractual obligations and their meaning. In many cases most business people regard contracts simply as "…pieces of paper…" used "…in the course of commerce…" to which they "…rarely…" possess a "…comprehensive understanding of...the evidentiary implications…" of such documents (Suchman, 2003, p.92). Conversely, to the legal profession a contract is a written document forming an agreement that acts as evidence and proof of an agreement (Suchman, 2003).

In many business transactions, commercial contracts are seldom (or never) conferred with once drawn up. Parties instead rely on trust and cooperation to govern the relationship (Camen et al, 2012; Roxenhall & Ghauri, 2004), and achieve the intended economic gains from the agreement (Campbell, 2001). The legal scholar Macneil stresses that contracts are "…no more and no less than the relations among parties to the process of projecting exchange into the future…" (Macneil, 1980, p. 4). If Macneil is correct it implies that genuine agreements between parties cannot be ascertained from formal contract documents at all because of the possible variance with the reality of parties' understanding and working relations in executing agreements. As far back as the 1920s, Atkin said that "Businessmen habitually…trust to luck or the good faith of the other party…" *Phoenix Ins. Co. Limited v De Monchy* (1929, Atkin, 439, cited in Summers, 1999). This comment is to some extent supported by later empirical studies (Macaulay, 1963, a, b; Beale & Dugdale, 1975; Bernstein, 2001) and provides an insight into the typical behaviour of business people. This potentially acknowledges a limitation of contract documents in regulating the parties' agreement: "…the contract no more ensures the good faith of your good fortune in…" the business transaction (Pearson, 2015, p. 19).

3.3.1 Construction Subcontracts

There are no particular formalities required for a written construction subcontract to be formed, it is considered "…that agreement as to parties, price, time and description of works is normally the minimum necessary to make the subcontract commercially and legally workable" (Ramsey & Furst, 2013, p. 2-109). Suchman's earlier definition of a contract seems to fit the model of a subcontract, which is an:

> …intricate frameworks of procedures, commitments, rights and incentives – all in order to accomplish practical objectives in the governance of human transactions (Suchman, 2003, p. 99).

Subcontracts are different from most other types of commercial contracts, as they usually include a mixture of complex products and services with inherent practical uncertainties; for example: unforeseen ground conditions; design and work changes; time delays to a project; and adverse weather conditions (Cullen & Hickman, 2012). In the construction case *Modern Engineering (Bristol) Limited v Gilbert-Ash Northern Limited* (1973), Morris described a construction contract as:

> …an entire contract for the sale of goods and work and labour for a lump sum price payable by installments as the goods are delivered and the work done. Decisions have to be made from time to time about such essential matters as the making of variation orders, the expenditure of provisional and prime cost sums and extension of time for the carrying out of the work under the contract *(Modern Engineering (Bristol) Limited v Gilbert-Ash Northern Limited* (1973, Morris, p. 699).

Similarly, in the construction case *Emson Easton (In Receivership) v EME Developments* (1991) Newey said of a construction contract:

> I think the most important background fact, which I should keep in mind is that building construction is not like the manufacture of goods in a factory. The size of the project, site conditions, the use of many materials and the employment of various kinds of operatives make it virtually impossible to achieve the same degree of perfection that a manufacturer can… (*Emson Easton (In Receivership) v EME Developments* (1991, Newey, p. 122).

Consequently, that is why construction subcontracts are typically drafted with:

> …complex and specialist provisions and contractual machinery not often found in other commercial contracts, such as provisions in relation to the grant of an extension of time for completion of the contract works (Beale, 2012, p. 37-004).

Like most commercial contracts subcontracts carry financial risk for parties, which is dealt with in drafting subcontracts to protect their interests. They include clauses, which make the subcontract flexible in order to cope with uncertainty and keep the

transaction alive (Loosemore, 1994). As such, subcontract drafters attempt to predict and prescribe the contractual procedures to be followed on site and the consequent liabilities that flow from the uncertainty of a construction project (Loosemore, 1994). Consequently, one of the main aims of a construction subcontract is to allocate project risk between parties (Loosemore, 1994). Theoretically, one might argue that it should be the intention of every subcontract to allocate such risk equitably between the parties (Djebarni & Hughes, 1994). This at least forms the basis of many standard forms of building subcontract that have usually been negotiated between different industry bodies representing the parties that make up the construction industry (e.g. JCT). Conversely, if risk is inequitably spread, in practice this may turn out to have severely detrimental and far-reaching consequences for parties and may leave them unsatisfied with the subcontract and/or burdened with costly disputes (Cullen & Hickman, 2012).

In order to manage the construction process from design inception to completion of the building, subcontract documents seek to specify the key variables concerning this process. Generally, this will include variation provisions to deal with work scope changes, extension of time and damages provisions to deal with delays to the project (Clegg, 1992). To achieve these aims subcontracts usually contain sophisticated prescriptive rules and procedures to be followed by contracting parties (Clegg, 1992). In short, the ideal model of a subcontract is, "…not just an offensive or defensive risk management tool but a handbook for performance and a vehicle for mutually beneficial cooperation between the parties" (Berger-Walliser, Bird & Haapio, 2011, p. 2).

This is an important consideration because when disputes arise, whilst it is acknowledged that a subcontract may require supplementation and interpretation (implied terms for example), it is usually the case that the documents will, to a large extent, be the focal point of enquiry into the dispute and its resolution (Mitchell, 2009). In this regard, the subcontract documents are held to be of greater hierarchical importance as constituting the definitive statement of the parties' legal obligations (Collins, 1999). Such an approach invites criticism because subcontracts often contain significant gaps (either by design or by oversight) or may be signed without being read or understood (Mitchell, 2009). This situation often leads to disputes as Mitchell

eloquently puts it, by "…pitting the reality of contractual relationships against the fabricated legal construction of the contract" (Mitchell, 2009, p. 7).

3.3.2 Classification of Subcontracts

Legal scholars (Macneil, 1985; Macaulay, 1985; Deakin, Lane & Wilkinson, 1997) have attempted to classify contract agreements generally into two main categories: Discrete (subdivided into classical and neoclassical), and Relational (Gil, 2009). A discrete classical contract has been described as a one-off self-contained agreement based on relatively clear legal rules of doctrine and of short duration (Cheung, Yiu & Chim, 2006). In a construction subcontract context this may involve a discrete one-off agreement for a subcontractor to construct, for instance, the external walls element of a structure. In such an agreement Brownsword (2000) argues that parties are more prone to exhibit self-interested contracting behaviour, in which they take advantage of one another's ignorance or exposure to risk. Such a situation will often give rise to disputes that are usually resolved by formal dispute resolution procedures such as, in a construction contract context, adjudication or arbitration (Cullen & Hickman, 2012). A discrete neoclassical contract, whilst similar to a discrete classical contract, has the exception that it will introduce a degree of flexibility, due mainly to the opportunity of future party collaboration (Cheung et al, 2006). In a construction subcontract context, a main contractor will retain the services of particular subcontractors on successive construction projects (Gil, 2009). In this case parties rarely resort to formal dispute resolution procedures; instead resolution is achieved by mutually negotiated procedures of informal commercial decisions (Cullen & Hickman, 2012). The parties have a united approach to preserve relationships as Hillman put it: "The substantive core of neoclassical law is based on the assumption that parties act out of self-interest within a context of trade custom balanced by social values" (Hillman, 1997, p.130).

It is recognised however that many contracts are not of the discrete kind, but have a continuing or relational aspect (Macneil, 1978; Smith & King, 2006). The theory of relational contracts was formulated by Macneil (1978) and remains the most influential (Mitchell, 2009). Macneil (1978) identified that all contracts occur in the context of a social matrix, which has an impact on the way parties operate the contract. If problems arise parties often negotiate a solution without recourse to the written

contract or threats of litigation. This is a feature on which Macaulay remarked during his empirical studies of business relationships.

> Disputes are frequently settled without reference to the contract…There is a hesitancy to speak of legal rights or to threaten to sue in these negotiations. Even where the parties have a detailed and carefully planned agreement which indicates what is to happen…they will never refer to the agreement but will negotiate a solution when the problem arises apparently as if there had never been any original contract (Macaulay, 1963a, p. 61).

A construction subcontract, which requires the supply of goods and services, will to some extent have a relational aspect in this sense. Such an arrangement may exist where a subcontractor is embedded within a main contractor organisation undertaking serial subcontract projects within the context of a framework agreement, based on for instance the standard form NEC3 (2013), broadly classified as being relationally grounded (Cullen & Hickman, 2012).

The extent to which main contractors and subcontractors formulate and use subcontract documents and procedures remains somewhat uncertain due to a lack of research in this area, making it difficult to know whether subcontracts are effective as a means to regulate the parties' relationship on site (Arditi & Chotibhongs, 2005; Mouzas & Blois, 2008). Bennett (1991) argues that in construction project situations that require pressing action, formal subcontract procedures are too inflexible and thus tend to be avoided. As previously discussed traditional procurement is the dominant route to procure construction work. Importantly, it is under this procurement arrangement that main contractors appoint subcontractors under discrete classical one-off written subcontracts.

3.4 Summary

It is evident that subcontracting practice plays an important function in the UK construction industry. Subcontractors undertake the majority of work under a traditional procurement route using discrete subcontract agreements. Consequently, the contractual agreement that underpins subcontracting relationships plays a pivotal role in support of fulfilling this important function.

Subcontracts are different from most commercial contracts i.e. although they contain important requirements concerning the formation of a legally binding agreement, a subcontract is also designed to make provision for constant change throughout the

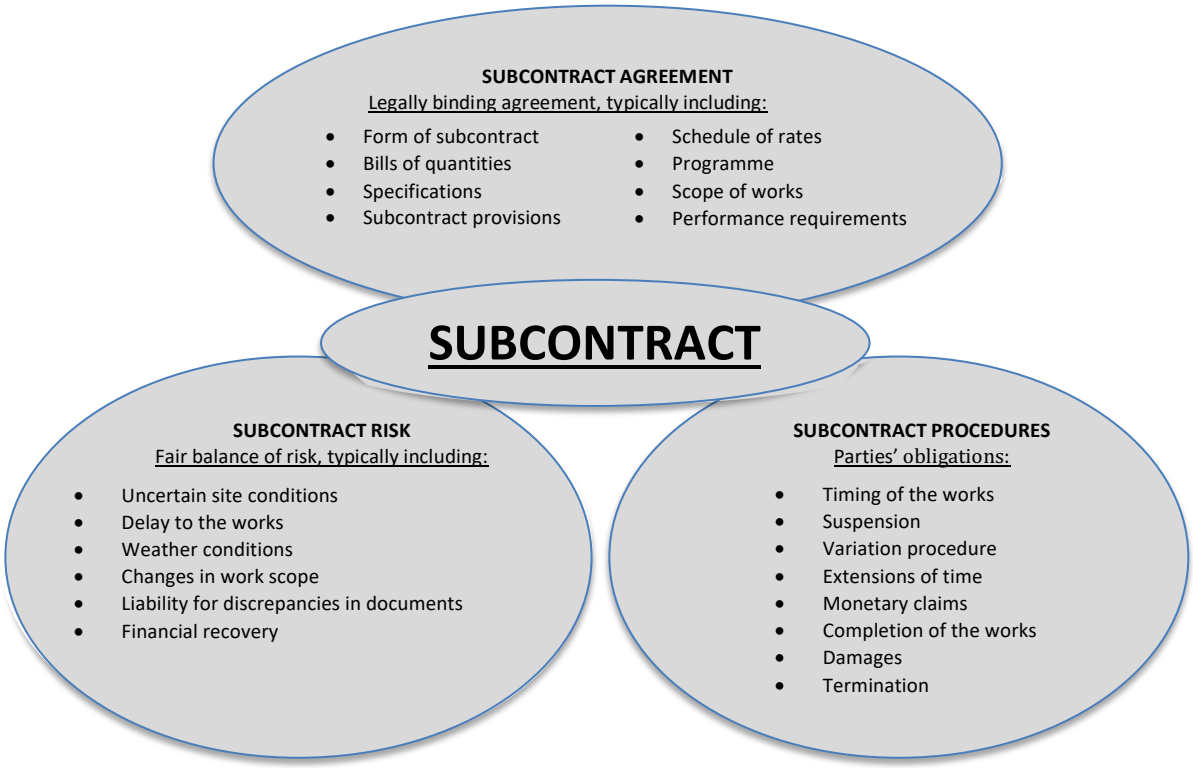
life of a construction project. In this regard, subcontracts often contain prescriptive provisions to deal with such change (variations, delays etc). The provisions are designed to be used by the parties in fulfilling their respective obligations towards one another.

Another important feature of the construction process is the inherent risks involved. The manner in which risks are to be dealt with is therefore an important factor to be included in the subcontract.

The theoretical use and function of a subcontract involves more than simply bestowing legal validity on the actions or decisions main contractors and subcontractors take in pursuit of their business interests. In serving the construction process the literature strongly indicates that construction subcontracts ought in theory to be designed to fulfil at least three important interrelated functions: (1) to accurately record a legally enforceable agreement; (2) to allocate project risks equitably between the parties; and (3) to express the contractual procedures prescribing and controlling the behaviour of the parties throughout the project.

The Practitioner has endeavored to summarise and draw together the main characteristics (Figure 4). The fundamental theoretical issue, which emerges from Chapter 3, is whether subcontracts successfully fulfil these diverse functions in practice and, if not, what ramifications emanate from such failure.

Figure 4: Subcontract Theoretical Model



CHAPTER 4 CONSTRUCTION SUBCONTRACTS IN PRACTICE

4.1 Introduction

In examining the theoretical purpose and context of written subcontracts, Chapter 3 identified three main functions which they are designed to fulfill, which is (1) to accurately record a legally enforceable agreement; (2) to allocate project risks fairly between the parties; and (3) to express the contractual procedures prescribing and controlling the behaviour of the parties throughout the project. Chapter 4 explores the difficulties encountered by parties in attempting to fulfil these functions, and the resulting disputes that arise.

4.2 Subcontract Agreement

The formation of subcontract agreements usually resides with main contractors by way of subcontract orders accompanied by various contractual documents, such as a scope of works, specifications and drawings, or bills of quantities for a lump sum fixed price (Cheung et al, 2006). The terms and conditions will usually have been drafted by lawyers for repeat use in other subcontract agreements; the remaining documents specific to the project are usually prepared by various members of the design team such as the architect, the engineer, the main contractor and the subcontractor (Cheung et al, 2006).

During the agreement process subcontracts are often entered into on the most informal basis and will frequently incorporate terms by reference to other documents, such as standard forms of building subcontract (e.g. JCT), and the main contract between the client and the main contractor (Murdoch & Hughes, 2008). Such attempts to achieve incorporation can fail wholly or partially, creating discrepancies in or between documents and lead to considerable confusion for the parties as to the interpretation of the agreement.

So important is the matter of contract formation that it is often the first issue to be resolved in a commercial dispute, and occupies a good deal of the time of commercial lawyers and judges (Lewison, 2007). Goff said:

> In point of fact, if not the meat and drink, then at least the staple diet, of the Commercial Court can be summed up in one word – "Construction". Commercial lawyers – solicitors, barristers and judges – spend a very substantial part of their time interpreting contracts (Goff, 1984, p. 383)

The commentators of the Building Law Reports noted in the construction case *Bovis Construction (Scotland) Limited v Whatlings Construction Limited* (1995) that construction contract documents are somewhat unsophisticated; projects often involve protracted correspondence in the pre-contract stage leading up to the making of a contract; and work starts and often finishes before any contract is agreed, if at all. In practice the administrative effort of collating all the necessary paperwork can be overtaken by the desire to begin work. What this means in practice is that, very often, once the parties have reached a point in negotiation where they are reasonably confident that a deal can be concluded, decision is made to start work. In such circumstances it becomes harder to sort out any issues as to the content, leading to a dispute about the existence and/or the terms of the subcontract itself (Xiao et al, 2013). As such, any contract that is executed is usually intended to retrospectively cover work already undertaken (Wallace, 2004). In addition, the underlying practical and commercial realities of most building projects often cause parties to make forced contractual agreements which lack clear thinking and are replete with obscure and unconsidered draftsmanship (Wallace, 2004).

It is therefore not always easy to determine when a subcontract came into existence and on what terms, even though the parties may mutually agree that a subcontract exists and have conducted themselves on that basis. This situation can result in disputes, for example, in the construction case *G Percy Trentham Limited v Archital Luxfer Limited* (1992) Archital the (subcontractor) was held to have accepted Trentham's terms by starting and completing the work on site, notwithstanding the fact that several matters concerning the terms of the subcontract required resolution by later negotiation. Performance of the project was actually completed without a written record of the formal agreement.

There are cases where the formation and record of a subcontract, in what may be considered in law as a meeting of the minds between the parties, is a rare thing in practice (Hughes & Greenwood, 1996). Subcontracts can be a mishmash of documents containing poorly drafted specifications, disparities between bills of quantities and drawings and specifications, and poorly prepared documents (Brook, 2004). This may be compounded by the parties attempt to cover every conceivable eventuality giving "…the impression…that the draftsman has included in the contract every piece of

paper in his office that related, no matter how tangentially, to the project in question…" (*Fenice Investments Inc v Jerram Falkus Construction Limited and Others,* 2009, Coulson, paragraph 28).

It is not uncommon for very detailed and lengthy written subcontract documents to be used (Bubshait & Almohawis, 1994) to cover all possible known and foreseeable contingencies and their likely impact on the project (Cheung & Pang, 2013). This approach is exemplified in a construction context in the following extract from the construction case *Joinery Plus Limited (In Administration) v Laing Limited* (2003):

> The subcontract is a compendious bible of documents which include an agreement; a detailed appendix incorporating 14 additional and detailed documents which include detailed programme requirements; a form of tender drawings; a contractor's requirements document; a rules and instructions for the project document; documents outlining the scope of works, the main interfaces with other trade packages, trade specific requirements and arrangements for co-ordination and integration of the services to be provided by Joinery; door schedules and detailed bills of quantities. The DOM/2 conditions with amendments 1 – 6, amended by a list of amendments also incorporated into the subcontract is applicable to this bible of documents (Joinery Plus Limited (In Administration) v Laing Limited 2003, Thornton, paragraph 31).

What emanates from the aforementioned are contractual problems for main contractors and subcontractors, with ambiguous or incomplete subcontracts which can result in disputes. It has been said that a "…disturbingly large proportion of contractors…and subcontractors have very little real understanding of the contracts they are using" (Hughes & Greenwood, 1996, p. 198). There are construction case law examples where the parties could not even properly identify the standard form of building subcontract they were supposed to be using e.g. *Brightside Kilpatrick Engineering Services v Mitchell Construction (1973) Limited* (1975); *Luxair Limited (In Administrative Receivership) v Edgar W Taylor* (1993).

4.2.1 Case Example: *Emcor Drake and Scull Limited v Sir Robert McAlpine Limited* (2004)

An example of the type of dispute that can arise between main contractors and subcontractors, concerning the agreement and understanding of a subcontract, is provided by the High Court construction case *Emcor Drake and Scull Limited v Sir Robert McAlpine Limited* (2004) and the Court of Appeal construction case *Emcor*

Drake and Scull Limited v Sir Robert McAlpine Limited (2004). These cases provide insight, albeit limited, into the apparent working practices of a main contractor and a subcontractor of starting work on site prior to executing a written formal subcontract, with the resulting problems this caused; for this reason, they merit further explanation. The project relating to both cases concerned the design and construction of new buildings and the refurbishment of an existing hospital as part of a private finance initiative scheme in the West Midlands, UK. McAlpine was the main contractor who appointed Emcor the subcontractor to undertake mechanical and electrical works, which at a value of £34.25m formed a significant part of the whole project.

McAlpine and Emcor were in discussion for a year before the price for the works was agreed in principle[3]. It had been the parties' intention to enter into a formal subcontract in the near future, but about 18 months after Emcor commenced work on site the parties' working relations broke down due to disagreements concerning the terms and conditions of the proposed subcontract. In the end, no formal subcontract was executed[4]. Emcor ultimately refused to undertake any further work until a formal subcontract was agreed[5]. Consequently, McAlpine held Emcor's actions to be a repudiatory breach, contending that a letter of agreement and a series of work orders constituted an agreement to complete the entire installation[6]. Emcor disagreed, and in its defence argued that its only obligation was to design and install the works instructed by McAlpine pursuant to the series of work orders, each valued at £1m[7]. The High Court[8] and the Court of Appeal[9] concluded that there was no subcontract between the parties and accordingly Emcor was not obliged to complete the entire works and therefore was not in repudiatory breach.

4.2.1.1 *Case Reflection*

The case judgments suggest that neither party had considered that a formal written subcontract would not be agreed at some stage of the project. More interestingly, had the dispute concerning the terms and conditions of the subcontract not arisen, Emcor

[3] Court of Appeal, paragraph 3
[4] Court of Appeal, paragraph 3
[5] High Court, paragraph 63
[6] High Court, paragraphs, 2, 43-58
[7] High Court, paragraphs 25-42
[8] High Court, paragraph 72
[9] Court of Appeal, paragraphs 49-50

would no doubt have completed the entire works regardless of whether a formal written subcontract was executed. This indicates that prior to the dispute Emcor either believed it was obliged to complete the entire works or was willing to proceed anyway in the belief that work undertaken would be retrospectively encapsulated in a formal subcontract in the future. It would seem to imply that the parties placed little importance on the formalities of a written subcontract prior to Emcor commencing work on site, until disagreement about the terms and conditions resulted in a dispute. It was clearly important to the parties to have in place some form of agreement (letters and series of orders) to govern their contractual relationship, nevertheless it shows that owing to:

> …the risks inherent in the M and E works…in terms of time and cost…there needed to be clear unequivocal agreement from the outset between the parties as to their respective obligations to avoid later difficulties[10].

These cases illustrate the problems created by parties not having in place a formal written subcontract prior to commitment of their obligations. Thus, potentially leading to conflict and a breakdown in an otherwise healthy working relationship.

In practice therefore the drafting and formation of subcontracts is in many cases divorced from the theoretical purpose and context of a subcontract, that is to accurately record a legally enforceable agreement. Although not in every contractual situation, the literature and the judiciary highlight a large proportion of situations between main contractors and subcontractors in which the negotiation and attempts to form subcontract agreement causes dispute. In essence, many subcontracts are formed after construction commences but before completion, or after completion; in some cases, they are never formed. In addition, subcontracts may be so voluminous and complex that they give rise to obscurity and disorganised draftsmanship, unsurprisingly; this often results in uncertainty about what was agreed.

Based on the exploration of the theoretical aim in practice, a distillation of a sample of the type of problems encountered by main contractors and subcontractors in the use of subcontracts, which lead to disputes is presented (Table 3).

[10] HC, paragraph 8, Mr Wallace witness statement for McAlpine

Table 3: Sample of Problems Encountered by Subcontractors and Main Contractors in the use of Subcontracts Concerning Subcontract Agreement

Subcontract Agreement		
Issue	**Example**	**Related Source from Literature**
Conflicting terms	Discrepancies in or between various provisions and documents, resulting in uncertainty and interpretation problems	Murdoch and Hughes (2008); Wallace (2004); Hughes and Greenwood (1996); Brook (2004); Xiao-Hua et al (2013); *Bovis Construction (Scotland Limited v Whatlings Construction Limited* (1995); *G Percy Trentham Limited v Archital Luxfer Limited*; *Fenice Investments Inc v Jerram Faulks Construction Limited and Others* (2009); *Joinery Plus Limited (In Administration) v Laing Limited* (2003); *Brightside Kilpatrick Engineering Services v Mitchell Construction (1973) Limited* (1975); *Luxair Limited (In Administrative Receivership) v Edgar W Taylor* (1993)
Incorporation of terms by reference	Vague or inappropriate references to subcontract terms, resulting in misunderstanding and unclear intentions	
Starting work without a mutually agreed subcontract	Parties unaware of their contractual obligations and responsibilities, resulting in different understandings about price, work scope and other matters based upon their own perceptions of the numerous exchanges that may have taken place	
Modifying clauses in standard form subcontracts	There is a complex interaction between many of the terms and modification can change the balance of risk and create ambiguity, resulting in legal uncertainty	
Errors or omissions in subcontract document	A document that is not expressly listed or successfully incorporated as forming part of the subcontract may cause reliance problems for one of the parties.	

4.3 Subcontract Risk

Construction projects are subject to more risk than many other types of commercial enterties because they are often one-off projects, complex in design and construction, and experience uncertainty during the construction process (Ashworth, 2012; Alsalman & Sillars, 2013). According to McGowan, Horner, Jones and Thompson (1992) fair risk apportionment is the principal aim of any construction contract. However, research shows that main contractors very often transfer enormous risk to subcontractors through the subcontract terms and conditions (Akintan & Morledge, 2013, Farooqui & Azhar, 2014; Harris & Arcadis, 2012, 2013, 2014). Whether a subcontractor is able to manage risk or not will depend on the subcontractor's

capability (Eriksson, Dickinson & Khalfan, 2007), but how risk is apportioned is considered to be a major underlying root cause of disputes (Cole, 2002). A subcontractor may enter into subcontract with a main contractor fully aware of the risks involved that it is agreeing to, but the subcontract may contain a degree of error or gaps either by deliberate drafting or oversight, which may lead to a degree of uncertainty resulting in dispute (Mitropoulos & Howell, 2001).

Risk allocation in subcontracts can significantly influence parties' behaviour towards one another (Zaghloul & Hartman, 2003). Subcontracts can be characterised by adversarial working relations, which some scholars consider is due to unfair risk allocation being a major contributory factor (Spittler & Jentzen, 1992; Kaka, Wong & Fortune, 2008). Cheung et al (2006) found in their studies of conflict in construction projects that equitable risk allocation was a significant factor in the prevention of disputes, supported by further studies in this field (Smith, 2003; Zaneldin, 2006).

The most important element of a subcontract is the contract terms (Ashworth, 2012). They set out the principal legal relationship between the parties and among other things determine the allocation of risk. Under common law jurisdictions parties are free to enter subcontract on whatever terms they choose. As such "…the parties are to be regarded as masters of their contractual fate…" in choosing which terms are essential and which to accept *Pagnan v Feed Products* (1987, Lloyd, p. 611). Therefore 'It is for the parties to decide whether they wish to be bound and, if so, by what terms, whether important or unimportant' *Pagnan v Feed Products* (1987, Lloyd, p. 619).

However, if there exists a serious imbalance of power between the parties to subcontracts terms may become so harsh that they are used as instruments of control and power (Djebarni & Hughes, 1994). The doctrine of freedom of contract, the notion that parties are free to enter (or not) into a contract, is arguably not entirely applicable to subcontractors. The concept of free is often misleading and false (Cullen & Hickman, 2012); in practice main contractors are able to negotiate (or force) advantageous subcontract terms in subcontracts (Cullen & Hickman, 2012) due to subcontractors reliance on main contractors for work (Odeyinka & Kelly, 2009). Therefore, subcontractual relationships may not be entered equally.

Frequently, main contractors draft subcontracts using harsh subcontract terms, often having a negative effect on trust and collaboration (Akintan & Morledge, 2013). For

instance, terms that permit main contractors to omit work from subcontractors and give it to other subcontractors without compensation, and terms that exclude subcontractors right to compensation for delay are regular inclusions in subcontracts (Thomas & Flynn, 2011). This practice invites opportunistic behaviour, creating a situation in which a main contractor might vexatiously or capriciously enforce a term of the subcontract that unequivocally allocates liability to a subcontractor (Hughes & Greenwood, 1996). Ireland (2004) argues that such adversarial attitudes and opportunism are typical in a main contractor and subcontractor relationship. This strongly suggests that some main contractors are not interested in fostering collaborative working relationships with subcontractors (Eriksson et al, 2007). According to Tommelein and Ballard (1998) this is deliberate in order that main contractors have an opportunity to improve their own cashflow by prohibiting such financial entitlements.

Akintan and Morledge (2013) carried out a study in the UK construction industry to examine relational problems encountered between main contractors and subcontractors under a traditional procurement route, using questionnaires and interviews. The findings demonstrated a general lack of interest by main contractors in wanting to develop collaborative working relationships, which accords with the findings of a similar study by Eriksson, Nilsson and Atkin (2008). According to some of the construction manager's responses this was due to main contractors transferring all or the majority of project risk to subcontractors, thus making the possibility of collaborative working difficult. As a consequence, from a range of seven factors investigated, a lack of trust between main contractors and subcontractors ranked as the highest obstacle to improving contractual relationships, initiated by the harsh and inequitable nature and conditions of subcontract agreements. The main contractors, interviewed about the reasons for such negative and unfair practices towards subcontractors, strongly asserted that the harsh nature of subcontract terms is a major influence. One of the respondents interviewed reinforced this finding by stating that "…it is not uncommon to see main contractors treat the same subcontractors differently on different projects they are both engaged on, as it is the contract that determines the flow of things" (Akintan & Morledge, 2013, p. 9).

The following real example from a main contractor's terms and conditions serves to illustrate the type of financial difficulties faced by a subcontractor concerning unfair risk allocation through the use of a harsh subcontract term:

> If the Sub Contractor shall be delayed in the execution of the Sub Contract Works, then in any such event the Sub Contractor shall be entitled to such extension of time or times for completion of the Sub Contract Works as may in all circumstances be fair and reasonable but, in any event limited to the extension of time or times granted for completion of the Principal Contract…

If the main contractor delays the subcontractor, the subcontractor will only be entitled to an extension of time if the main contractor receives the same extension of time under the principal contract. Consequently, the subcontractor may be left with no redress for an extension of time notwithstanding that the delay may have been caused by the main contractor.

These types of terms are found in subcontracts, and time and cost wasted during such periods of delay will have financial implications, which subcontractors are not often able to recover (Briscoe et al, 2001). Furthermore, a subcontract that allocates risk unfairly:

> …carries serious implications for responsible contractors since…such contracts can drive out of business the class of contractor with genuine cost and construction skills in favour of the contractor with greater claiming skills… (Uff & Capper, 1989, p. 202).

Naturally, allied to risk is trust. Zaghloul and Hartman (2003) discovered in their study of construction project party relationships that there was a major correlation between risk allocation and trusting relationships. The study suggested that unfair risk apportionment created difficult working relations resulting in disputes and mistrust. McDermott, Khalfan and Swan (2004) assert that trust is fundamental in any commercial relationship and because a more equitable distribution of risk engenders trust, fairness is seen as a fundamental element of trust (Kadefors, 2004). As such, trust is perceived as a prerequisite for increased party commitment (Morgan & Hunt, 1994; Dahlgaard & Dahlgaard, 2003), which Morgan and Hunt define as "…believing that an ongoing relationship…is so important as to warrant maximum efforts at maintaining it…" (Morgan & Hunt, 1994, p. 25). If one party is considered untrustworthy, the other party may choose to exercise a lack of commitment in the relationship (Camen et al, 2012).

Humphreys et al (2003) consider trust is a major requirement for successful contractual relationships to avoid disputes. However, they argue that main contractors have realised that the greatest potential for cost savings is through subcontractors, and the prevalence of unfair practices has increased resulting in disputes from financial self-interest. Various scholars regard trust as the most fundamental ingredient to the success of any business relationship (McDermott et al, 2004; Hakansson, Harrison & Waluszewski, 2004). Therefore, the inequitable sharing of risk, and potential enforcement of unfair subcontract terms, has the potential to foster mistrust and create a lack of party cooperation at the outset of a subcontractual relationship, thereby inhibiting the success of the construction project.

The notion of trust is however very complex and diverse with much academic debate regarding a common definition or understanding of the term (Mayer, David & Schoorman, 1995; Hartman, 2002). It is understood differently by various business communities, thus making it difficult to draw any firm conclusions from the research (Mitchell, 2009). Notwithstanding, Mitchell (2009) makes the point that it clearly shows that a precise difference between the interests of contracts with that of trust is not always provided in business relationships. This point is illustrated by the empirical study of businesses in Britain, Germany and Italy carried out by Burchell and Wilkinson (1997). Business people were asked to define what they understood by the term "trust" in a business relationship. The responses fell into two broad groups – one in which trust was defined as a relationship based on honesty, reliability, openness, fairness and cooperation; and the other group viewed trust as direct experience of a contracting party doing what they said they would do. In addition, there are some scholars who interpret trust as containing both one person's personal or business interest without regard for the other party, and that of a broader social structure in which the parties have a particular location that shapes their behaviour and business opportunities (Lyons & Mehta, 1997b; Lane, 1997). Thus, such scholars are likely to see a direct conflict between formal contracts and trust (Woolthuis, Hillebrand & Nooteboom, 2005). In view of the imprecise connection between contracts and trust, due to the contradictory nature of business relationships, some scholars have questioned whether it is entirely appropriate to examine contractual agreements in terms of trust (Williamson, 1993; Burchall & Wilkinson, 1997). According to such

scholars trust must be understood as representing both a selfish concern for a contracting party whilst at the same time being concerned with one's own self-interests (Mitchell, 2009). Campbell (2001) aptly conceptualises these two contrasting aspects when he wrote:

> Man is both an entirely selfish creature and an entirely social creature, in that man puts the interests of his fellows ahead of his own interests *at the same time* that he puts his own interests first (Campbell, 2001, p. 153).

In a main contractor and subcontractor relationship, Wightman (1996) provides the following example:

> Although such terms as trust and co-operation are used here…The issue is not the existence of self-interest, but the form of its expression. Take for example, the relationship between a main contractor and various subcontractors on a major construction project…It will be in the self-interest of all the firms for the project to be completed successfully, but this will not happen if every technical breach is pounced on as an excuse for terminating and claiming damages (Wightman, 1996, p. 15).

A major theoretical function of subcontracts is the fair allocation of risk between parties; however, in practice this is not always achieved. Main contractors occupy the dominant position in the relationship and can include onerous terms, designed to reduce or prevent subcontractors financial compensation and increase unfairly their liabilities. Subcontractors theoretically have the option to reject the subcontract but given the high dependency of subcontractors on main contractors for work, they may be economically forced to accept onerous terms bearing unfair risk. Alternatively, subcontractors may not know what terms exist in subcontracts or the potential ramifications; an unknown risk.

Based on the exploration of the theoretical aim in practice, a distillation of a sample of the type of problems encountered by main contractors and subcontractors in the use of subcontracts, which lead to disputes is presented (Table 4).

Table 4: Sample of Problems Encountered by Subcontractors and Main Contractors in the use of Subcontracts Concerning Subcontract Risk

Subcontract Risk		
Issue	**Example**	**Related Sources from Literature**
Omission of work	A provision in the subcontract permitting the main contractor to omit work from the subcontract and give it to another contractor without compensating the subcontractor	Alsalman and Sillars (2013); McGowan et al (1992); Akintan & Morledge (2013); Eriksson et al (2007); Cole, 2002; Zaghloul and Hartman (2003); Kaka et al (2008); Humphreys, Matthews and Kumaraswamy (2003); Cheung et al (2006); Smith (2003); Zaneldin (2006); Lam et al (2007); Djebarni and Hughes, (1994); Thomas and Flynn (2011); Hughes and Greenwood (1996); Briscoe et al (2001); Uff and Capper (1989); Farooqui and Azhar (2014); Harris and Arcadis (2012, 2013, 2014); Spittler and Jentzen (1992)
Passing of obligation for design co-ordination	Passing sole obligation to the subcontractor to co-ordinate design work with all other design works on the project, resulting in potential difficulties for the subcontractor	
Inequitable set-off	A provision in the subcontract permitting the main contractor to set-off estimated future costs, damages and expenses against the subcontractor's payment, with no requirement to provide evidence of damages	
Inequitable acceleration	A provision in the subcontract permitting the main contractor to instruct the subcontractor to accelerate the works, without extra costs, if it forms an opinion that progress is not being maintained	
Passing of responsibility for errors	Passing obligation to subcontractor for errors, ambiguities, or inconsistences in or between subcontract documents without compensation or further time to complete the works if necessary.	
Payment	Long payment cycles that may affect cash flow	

4.4 Subcontract Procedures

In its theoretical context a subcontract is drafted to have a significant function in the construction project process, as it seeks to set out the parties' rights and obligations and communicate the procedures to be fulfilled in executing a construction project (Rameezdeen & Rajapakse, 2007). Therefore, a subcontract may take the form of a kind of management handbook for the transmission of information, containing mechanisms prescribing and to some extent directing the parties' behaviour - becoming the definitive procedure manuscript for administering the construction

process (Camen et al, 2012). This view is supported by Rameezdeen and Rajapakse (2007) who argue that generally a construction contract has a significant functional part to play in the construction process because "…it communicates the procedures to be adopted in executing the project…" (Rameezdeen & Rajapakse, 2007, p. 729). In order for a subcontract to be capable of fulfilling this function Kennedy, Morrison and Milne (1997) highlight that parties need to have a corresponding contractual understanding of the documents in use.

Against this backdrop, Hughes and Maeda (2002) carried out a study to explore respondent's views on the Latham (1994) report and construction contract policy in the UK construction industry, using questionnaires completed by clients, consultants, main contractors and subcontractors. Half of the study concerned general contractual issues that arise in construction projects. A hypothesis underlying the study was that contracting parties should not ignore contract documents but understand and use them during the project. A question posed to test this hypothesis was that parties should understand their precise contractual obligations before commencing a construction project.

An overwhelming majority of 98% of the respondents agreed, indicating that construction contracts should be carefully understood at the inception stage of a construction project, not something to be ignored or taken lightly. Interestingly, in response to another question suggesting that parties should monitor what actually happens on a construction site i.e. comparing the working relations with the contractual procedures, the respondents were about even in their response. In addition, the respondent's response to a further question asking whether contractual obligations should prescribe the parties' behaviour, a 62% majority was in favour of this. This is surprising because if a construction contract is drafted to regulate the parties' relationship, without knowledge of the adherence with contractual procedures, planning for future events in the construction process could prove extremely difficult if not impossible. Perhaps as Hughes and Maeda (2002) suggest, it indicates that in the respondent's view the function of construction contracts is not for managing the construction process after all but to protect and enforce their interests through legal sanctions when disputes arise.

A key premise therefore is that construction contracts are the sole (or at least the primary) mechanism for regulating and ultimately enforcing contractual rights (Mitchell, 2009), one in which the parties must be presumed capable of allocating and assessing responsibility for failures to fulfill the terms of that contract. In such a theoretical model, subcontracts are clearly expressed, legal enforcement is omnipresent and straightforward, and expected performance is clear. However, subcontracts are often bespoke documents, hastily executed (if at all) during the tendering process, or negotiations as to the precise terms continue while construction work proceeds under, for example, a letter of intent. In addition, subcontracts aim to cover as many contingencies as possible in order to resolve the incidence of conflict (Cheung et al, 2006). In effect, parties attempt to define their liabilities, obligations and contractual procedures into a framework within which a construction contract is negotiated, understood and interpreted, but this can create practical problems (Clegg, 1992). As a result, construction contracts have been criticised for being overly complex, containing too much procedural content which is largely ignored by the parties (Broome & Hayes, 1997). In fact, Clegg (1992) asserts that this "…is why contracts cause conflicts…" between the parties on construction projects (Clegg, 1992, p. 135). Findings from the annual 'Global Construction Disputes Report' by Harris and Arcadis (2012-2016) indicates that a failure to understand and/or comply with contractual obligations has been and continues to be a major factor in the cause of disputes. Although the report is reliant upon data generated from within Harris and Arcadis' business, it nevertheless provides some insight, albeit small, into causes of disputes between various parties in the UK construction industry.

This has led such scholars as Cheung et al (2006) to seriously question whether subcontracts are designed in such a way that they fail to meet the demands of what actually happens on construction sites. Faced with the challenges of meeting project performance in terms of cost, time, and quality the way in which subcontracts are designed may not be the best option for achieving these objectives, as it has been shown to create adversarial attitudes and be incapable of coping adequately with construction contingencies (Cheung, 2007). For instance, subcontracts are conventionally provided with detailed documents, such as specifications and drawings that serve as performance standards that work well as far as physical work and

functionality are concerned (Cheung et al, 2006). However, coupled with the formality of a subcontract and the rigid and legal status that it supports firmly conceptualise the boundary of performance, a change of which invites disputes (Cheung et al, 2006).

In addition, subcontracts as a set of procedures and rules, cannot provide for their own interpretation and therefore are unable to specify how they will be read, interpreted and used by parties, creating potential uncertainty during the practical demands of the construction process (Clegg, 1992). Furthermore, construction contract documents '…are never unproblematic, never unambiguous because they can never be '*unindexical*' (Clegg, 1992, p. 133). Indexical, another term for deictic, refers to the way in which a person interprets a word or expression that is dependent on the context in which it is used (Oxford Dictionary of English (2005). Therefore, subcontract documents are not "…matter-of-factual" (Clegg, 1992, p. 133); they need to be interpreted by the parties. This will depend on the knowledge of the parties' different personnel within each company department, and their understanding of particular events (Clegg, 1992). In consequence, disputes are ever present on construction projects as a result of competing interpretations "…extending across space, time and knowledge, through contractual documents" (Clegg, 1992, p.134). Construction projects comprise of a complex web of inter-main contractor and subcontractor communications that involves different types of specialist knowledge being used by the parties at different stages of the project (Clegg, 1992). However, a subcontract with its potentially artificial construct and sequential finality:

> …does not seem suited effectively to control a process characterised by the interdependence of its operations, fraught with uncertainty and requiring carefully phased decisions and continuous application of all control functions (Higgin et al, 1966, p. 45, cited in Clegg, 1992).

Consequently, in the actual process of design and construction on construction projects it has been found that:

> …the characteristics of the formal…' contract '… are so much in conflict with the control functions required to achieve effectiveness in the system of operations that, in practice, the formal…' contract '…cannot be closely followed. Rigid adherence to the procedures of the formal…' contract …would not be possible, under normal conditions, without unacceptable expenditure – particularly of time. In practice, reality forces recognition of interdependence, uncertainty, phased decision-making, and the continuous application of

> functions. It forces members of the building team to adapt themselves (Higgin et al, 1966, p. 46, cited in Clegg, 1992).

To put this into a theoretical context, construction project design in a subcontractual relationship is often completed prior to construction work starting on site. In practice however, this is not recognised by the usual number of design variations to a projects scope of works throughout the construction process (Clegg, 1992). Furthermore, a main contractor may specify the work to be undertaken by a subcontractor in firm bills of quantities. In theory, the main contractor should quantify the work in detail at the pre-subcontract tendering stage; in practice there is usually insufficient design information to do so (Clegg, 1992). In a relational context therefore, where the future contingencies and risks of construction projects are complex and uncertain, a subcontract may fail to capture the dynamic and interrelated relational aspects (informed working relations) and subcontractual rules and procedures. Thus, definitive subcontractual binding commitments may be impractical. As Clegg (1992) found in his empirical study of construction projects, when he said:

> The idea that the contract documents are a series of instructions, or formally complete and binding rules for constructing a structure from its 'detail' cannot be sustained for long after one has observed a site in progress (Clegg, 1992, p. 132).

A construction project is characterised by the fact that it is comprised of contractual relations between various parties. A subcontract is one such example under which the procedural control will dictate the parties relationship by: which party can do what, when, in what sequence, with what materials, at what standard of quality and so on (Clegg, 1992). In practice, the uncertainties of a construction project constantly conflict with the formality of the subcontract, forcing parties to create adaptive informal procedures (Clegg, 1992). Problems occur as a result of collisions between an uncertain reality (a construction project) and the formal subcontract documents. The uncertain reality takes the shape of the actual, real, informal working relations, while the subcontract, by contrast, somewhat artificial: it doesn't actually exist (Clegg, 1992). It consists of text, drawings, symbols and numbers, which have in some instances only a marginal relation to how subcontracting works on construction projects (Clegg, 1992). As such, a subcontract seems to function as a potent symbol, waiting to be put into practice, to be made meaningful (Clegg, 1992). Such rigid formality invites

criticism of subcontracts for being too artificial, as they may contain significant gaps (either by design or oversight) or may be agreed without ever been read or fully understood (Mitchell, 2009). Consequently, parties will have different vested interests in the interpretation of contractual documents, because as Clegg argues '…no interpretation is ever innocent of interest (Clegg, 1992, p. 134). This suggests that subcontracts are not that important or practical to what goes on during the execution of a project, because to run a project by the terms of a subcontract "…would be at best slow and often impossible" (Broome & Hayes, 1997, p. 256). It is instructive to note that Brownsword (2000) in his studies of business relationships generally came to the conclusion that contract provisions, that tended to be overly prescriptive, (like subcontracts) sub-divided operations into quite separate and different areas of activity. In his view, such terms encourage parties to behave independently of each other, as they focus on their own objectives and priorities, adversely affecting their relationships to the detriment of the contract agreement.

Subcontracts are theoretically designed to be legally enforceable agreements (Hughes & Greenwood, 1996). When a dispute arises that requires formal resolution (litigation or adjudication), whilst it is acknowledged that a subcontract may require supplementation and interpretation (implied terms for example), it is usually the case that the subcontract documents will be the focal point of enquiry into the dispute and its resolution (Mitchell, 2009). Difficulties naturally arise when each party argues for a different interpretation, which contradicts the subcontract documents. If parties have an agreed subcontract the alternative interpretation of what happened during the working relations will not be allowed to intrude upon the written subcontract *Peekay Intermark Limited v Australia and New Zealand Banking Group Limited* (2006). This highlights the inevitable tension between the parties' working relations and the formality of the subcontract; two governance regimes that are often irreconcilable. This can lead to serious disputes and some of these are evidenced in legal case law.

The cases, *WW Gear Construction Limited v McGee Group Limited* (2010) and *Education 4 Ayshire Limited v South Ayshire Council* (2009) illustrate such problems worthy of further discussion.

4.4.1 Case Example: *WW Gear Construction Limited v McGee Group Limited* (2010)

Gear appointed McGee to carry out groundworks, excavation and other works, for a development in central London[11]. During the project McGee applied for interim payments for work executed from 2007 through to 2009[12]. As part of its applications McGee also applied for payment in connection with delays to the project site preliminary costs for the extended period on site[13]. In one of the latter applications this culminated in a claim for "loss and expense" in the sum of about £1.5m. The claim included, in addition to its preliminary costs, other money claims relating to delay and disruption to the works[14]. The claim was not paid, and a dispute ensued, which Gear referred to adjudication and was unsuccessful[15]. McGee was awarded its claim, but Gear was not satisfied with the decision and subsequently issued separate court proceedings[16].

Gear contended that McGee in making its claim had failed to comply with the requirements of the provisions under the contract for making such claim. Gear argued that McGee's strict compliance with the contract provisions was a condition precedent to its entitlement, and because the claim was served out of time it lost its entitlement. McGee disagreed and contended that in any case it should not bar it from making a bona fide claim for loss and expense, whether or not the claim was out of time[17]. The judge decided that McGee's obligation to make an application in writing within the prescribed time limit was a pre-condition to its claim, which it failed to do, therefore, Gear was successful in defending the claim[18].

4.4.2 Case Example: *Education 4 Ayshire Limited v South Ayshire Council* (2009)

Education was appointed by SAC to design and construct six schools as part of Ayrshire Schools PPP[19]. In turn, Education subcontracted the entire works to another building contractor. During the project, Education experienced delays to the works of 16 weeks and claimed about £1m for delay costs[20]. SAC defended the claim by arguing that

[11] Paragraph 2
[12] Paragraph 3
[13] Paragraph 3
[14] Paragraph 3
[15] Paragraphs 3, 4
[16] Paragraph 4
[17] Paragraph 19
[18] Paragraph 19
[19] Paragraph 1
[20] Paragraphs 8, 9

Education had failed to comply with the notice requirements under the contract. The central issue concerned whether a letter sent by Education constituted a proper notice[21].

The letter stated, among other things, that Education was experiencing delays due to the discovery of unexpected asbestos in one of the existing buildings[22]. It made reference to previous correspondence that passed between the parties and correspondence from Education's building contractor[23]. The correspondence from the building contractor went into considerable detail about the effect of the delays on the original programme[24]. The letter finished by stating that a full claim would be submitted in accordance with certain provisions of the contract. The contractual provisions for giving notices were very prescriptive and were found to be a condition precedent to Education's entitlement to make a claim[25]. The judge decided that Education's letter did not comply strictly with the notice requirements and was fatal to Education's claim[26].

4.4.3 Reflection on Both Cases

The cases highlight McGee's and Education's apparent lack of importance in complying strictly with the contractual requirements, but instead placed greater importance on a more informal procedure to govern part of the relationship.

In Case One, it was clear to Gear that McGee was incurring delay to the project and consequently sought compensation for its losses through interim applications for at least 2 years during the project, culminating in a formal claim. Likewise, in Case Two SAC was kept fully informed of the asbestos problem and the consequent effect on the construction programme and the amount of Education's loss and expense claim. Much correspondence passed between Education and SAC concerning the matter and a meeting was also held. Therefore, based on the limited information provided by the judgments it would seem at least arguable that during the project "…there could have been no doubt as to what was intended to be conveyed…" by McGee and Education[27].

[21] Paragraphs 11, 12
[22] Paragraph 12
[23] Paragraph 10
[24] Paragraph 10
[25] Paragraph 18
[26] Paragraph 19
[27] Paragraph 13, Counsel for Education

Either claim may have been successful on its merits but for the failure to comply with the strict notices requirements of the contracts.

The cases highlight McGee's and Education's apparent lack of importance in complying strictly with the contractual requirements, but instead placed greater importance on a more informal procedure for governing part of the relationship. There are no indications from the judgments that in defence Gear and SAC were insisting upon the strict contractual notice requirements during the project, which may indicate that they too were relaxed about the formal contractual requirements. Clearly, when the relationships broke down the formal contracts became of fundamental importance, if only for tactical reasons in defending the claims. Whilst the issues concerning both claims were a matter for resolution, the cause of the disputes concern the procedural aspects of the subcontracts.

In Case Two, in response to counsel's argument for Education that allowance should be made for the fact that the notice was drafted by businessmen[28], it is instructive to note the judge's remark:

> It is within judicial knowledge that parties to contracts containing formal notice provisions turn immediately to their lawyers whenever there is a requirement to give notice in accordance with those provisions…But there is nothing in clause 17.6.1 that would not readily be understood by a businessman unversed in the law[29].

Contrary to this there is no indication from the judgments that McGee or Education appointed lawyers to draft the notices, quite the reverse. In addition, it would seem that McGee and Education did not apply and/or fully understand the contractual notice requirements. Whether or not McGee even considered the requirements in the contract or understood them is not entirely known. Education on the other hand did make claim under a term of the contract, but it would seem that it failed to understand fully what was required.

Based on the exploration of the theoretical aim in practice, a distillation of a sample of the type of problems encountered by main contractors and subcontractors in the use of subcontracts, which lead to disputes is presented (Table 5).

[28] Paragraph 17
[29] HHJ Glennie, paragraph 18

Table 5: Sample of Problems Encountered by Subcontractors and Main Contractors in the use of Subcontracts Concerning Subcontract Procedures.

Subcontract Procedures		
Issue	**Example**	**Related Source from Literature**
Failure to give proper and timely notice	Subcontractor failure to give notice within a defined time period, or not given with proper details, or not given with supporting documents, resulting in uncertainty and misunderstanding and potential financial consequences.	Clegg (1992); Broome and Hughes, (1997); Cheung et al (2006); Cheung, (2007); Higgin et al (1966), cited in Clegg (1992); Mitchell, 2009; Brownsword, 2000; Harris and Arcadis, 2012-2016; Malleson (2012, 2013, 2015, 2018); *Peekay Intermark Limited v Australia and New Zealand Banking Group Limited* (2006); *WW Gear Construction Limited v McGee Group Limited* (2010); *Education 4 Ayshire Council* (2009)
Proceeding with changed work scope without proper instruction	Subcontractor performs the necessary change to the work scope without an instruction, resulting in uncertainty as to the validity of the change and potential financial consequences.	
Failure to comply and/or understand valuation process concerning changed work scope	Parties disagree over valuation procedure of variations, resulting in potential financial consequences.	
Provision of Information	Main contractor fails to comply with subcontract provision for the supply of information (i.e. design, request for information, approvals), resulting in delay to the project.	
Failure to comply with payment procedure	Subcontractor's interim application for payment not issued on specified date strictly in accordance with the subcontract, resulting in non-payment by the main contractor and leading to potential dispute.	

In addition, a selection of recent construction case judgments in the UK construction industry is presented (Table 6), highlighting the continuing problems. Many of these involve disputes between main contractors and subcontractors shown highlighted.

Table 6: Recent Construction Case Judgments

Name of Case	**Issues in Dispute**
Anchor 2020 Ltd v Midas Construction Ltd (2019)	Contract formation and interpretation
Grove Developments Ltd v S&T (UK) Ltd (2018)	Contract formation and payment procedures
(1) Donald McDonald (2) Ruth McDonald v D&F Contracts Ltd (2018)	Contract formation
M Hart Construction Ltd & Anor v Ideal Response Group Ltd (Rev 1) (2018)	Contract formation
Almacantar (Centre Point) Ltd v Robert McAlpine (2018)	Contract formation and interpretation
Dacy Building Services Ltd v IDM Properties LLP (2018)	Contract formation
Charles David Hoyle v BAK Building (Contracts) Ltd (2018)	Contract formation

Name of Case	Issues in Dispute
Williams Tarr Construction Ltd v (1) Anthony Roylance (2) Anthony Roylance (2018)	Contract formation
University of Warwick v Balfour Beatty Group Ltd (2018)	Contract formation and interpretation
***BHC Ltd v Galliford Try Infrastructure Ltd (t/a* Morrison Construction)** (2018)	Subcontract formation and interpretation
Cleveland Bridge UK Ltd v Sarens (UK) Ltd (2018)	Subcontract formation, applicable terms and interpretation
Merit Holdings Ltd v Michael J Lonsdale Ltd (2018)	Nature of subcontractual relationship
Clancy Docwra Ltd v E.ON Energy Solutions Ltd (2018)	Extent of subcontract obligations
Systems Pipework Ltd v Rotary Building Services Ltd (2017)	Final account procedure
McGee Group Ltd v Galliford Try Building Ltd (2017)	Subcontract formation and interpretation
Severfield (UK) Ltd v Duro Felguera UK Ltd (2017)	Valuation of final account
Costain Ltd v Tarmac Holdings Ltd (2017)	Subcontract formation and interpretation
GB Building Solutions Ltd v SFS Fire Services Ltd (t/a Central Fire Protection) (2017)	Subcontract formation and interpretation; practice completion procedure.

4.5 Gap in Current Knowledge

The literature has shown that most studies into the causes of disputes in the construction industries across the world were conducted in the 1990s and early 2000s, however, there has been a paucity of current research in this field. Although the reason for this is unknown, the most plausible explanation seems to be that according to Love et al (2011), nearly a decade ago, studies had reached saturation point; showing consistently similar findings. Later studies by Cakmak and Cakmak (2014) support this view. Moreover, nearly a decade later studies by, for example, Aryal and Dahal (2018), Sabri, Ledre and Bruland (2019) concluded that their findings corroborate the earlier research. Nonetheless, despite the number of past studies and the paucity of recent research, disputes continue to prevail, and are worthy of further research.

Literature to date has identified various potential causes of disputes with similar findings, however scholars consider that there is a scarcity of empirical data to justify the claims being made for the causes (Fenn, Lowe & Speck, 1997; Edwards, Irani & Walker, 2008; Love et al, 2011; Mitkus & Mitkus, 2014). The main thrust of their argument is that the literature identifies a list of circumstances which show some relationship with disputes but not the underlying root causes – there is a scantiness of

contextual meaning. Moreover, they argue that the research erroneously presents findings as root causes for instance, variations to work scope which may act as a catalyst for disputes but are not by definition the root causes. In addition, the various labelling of the potential causes is misleading because different labels are used to identify the same causes.

Furthermore, the majority of research methods used in the studies were ascertained by quantitative means (questionnaires being the dominant method). And only about 45% of the studies analysed were conducted in the UK. In addition, the data was collected from various participants in a general manner i.e. from client/consultant/main contractor/subcontractor, in an apparent ad-hoc fashion. The studies do not focus on specific contractual relationships for instance, client and main contractor or main contractor and subcontractor, etc. It may be the case that the same causes arise between the various groups, but without further research it remains unknown. Most strikingly, there is a serious shortage of empirical research concerning the root causes of disputes between main contractors and subcontractors. This is surprising given the great significance placed on subtracting practice and the number of disputes that arise between these two groups.

Consequently, there is a deeper level of insight missing into the root causes of disputes between main contractors and subcontractors. This research study aims to use this gap in current knowledge as a departure point to explore and investigate the root causes through qualitative research methods. A deeper understanding of how and why disputes occur in the governance of subcontracts will contribute to existing knowledge and provide fresh and important insights and interpretations. This will allow the root causes to be better understood so that dispute avoidance strategies can be designed with the purpose of limiting or preventing disputes from arising.

4.6 Summary

The theoretical functions of a subcontract are not always fulfilled in practice resulting in disputes. The literature and the courts highlight situations where parties attempts to fulfill the first important purpose of accurately recording a legally enforceable subcontract fails. Many subcontracts are formally agreed after construction work has commenced but before completion, or even after work is completed or not at all. The

process of forming subcontracts can be a recipe for disaster. For instance, although lawyers often draft the terms and conditions of subcontracts, members of the project team (architect, engineer, main contractor and subcontractor) usually draft the remaining subcontract documents, which are then assembled by the main contractor and issued to the subcontractor. Examples of this situation have shown that subcontracts lack clear thinking and are replete with obscure and unconsidered draftsmanship. In any dispute situation, the first issue that usually needs to be resolved is whether or not the parties have formed a legally binding subcontract, and on what terms and conditions apply.

The second main theoretical purpose of a subcontract is to allocate project risk equitably between the parties. In practice, this is not always achieved. Main contractors usually occupy the dominant position in the relationship and sometimes include onerous terms, designed to reduce or prevent subcontractors' financial compensation and increase unfairly their contractual liabilities. Whilst subcontractors have the option to reject such practice, given the high dependency on main contractors for work, many are economically forced to accept onerous terms bearing unfair project risk. This sometimes leads subcontractors to be suspicious of main contractors, which in turn may result in an atmosphere of mistrust from the very start and eventually dispute. Studies carried out involving main contractors and subcontractors have identified that a lack of trust exhibited in the use of subcontracts with inequitable risk apportionment have proven to be a major obstacle to improving collaboration in subcontracting practice. Given that some scholars view fair apportionment of project risk as a significant factor in the prevention of disputes, it is no surprise that an imbalance in risk apportionment towards subcontractors can lead to financial claims and disputes. The inequitable distribution of project risk and the potential for main contractors to enforce harsh subcontract terms creates a situation that fosters mistrust, thereby having the capacity to inhibit the overall success of construction projects.

The third main theoretical purpose of subcontracts creating practical difficulty for parties is the express contractual procedures. Subcontract documents, among other things, stipulate written processes and strict controls concerning the day-to-day management of construction projects. Adherence to such procedures is often

impracticable under the constraints of normal project working relations. Furthermore, this may be compounded by parties failed attempts to understand how to properly implement them due to obscure draftsmanship or inconsistencies in or between documents. As such, parties will often ignore subcontract terms or provisions, relying instead on their own informal procedures or non-at all. This invites serious criticism of written subcontracts for being too artificial by creating two, often incompatible, situations within which subcontractual relations are conducted on construction projects – a real world created by the parties and an artificial construct created by written subcontracts. In addition, uncertainty and confusion is often created for the parties with ambiguities in or between documents that need to be resolved. This manufactures interpretation problems and disputes about what the subcontract means. Consequently, scholars have seriously questioned whether written subcontract procedures are capable of facilitating and prescribing successfully the parties' actions on construction projects. A particular point of difficulty concerning this scenario is that when a dispute arises the subcontract documents become in essence the focal point of investigation into resolving the dispute. Pragmatically, this often results in the situation where each party argues for its own interpretation of events (the day-to-day web of inter-main contractor and subcontractor communications and informal procedures) against the non-conformance of the express subcontract procedures. Furthermore, this may create an opportunity for one party (or both) to take advantage of the other party's misunderstanding or ignorance of the subcontract procedures. The outcome of this situation is illustrated by construction cases.

There is no doubt that empirical studies of disputes between main contractors and subcontractors in the UK construction industry are important. As the majority of the work on construction sites is undertaken in a subcontractual relationship, when disputes arise the impact can be far reaching. In spite of the number of empirical studies concerning disputes generally and the measures implemented to try and prevent them, disputes remain prevalent in subcontractual relationships. The literature reviewed indicates that the majority of the studies have been carried out using questionnaires and there are a limited number of in-depth empirical studies of subcontracting practice in the UK construction industry. Additionally, there seems to

be a lack of attention to the most distinctive product of most subcontractual relationships – the subcontract documents.

Given the importance of subcontracting practice, a greater understanding of the use of subcontracts that give rise to disputes in practice from the point of view of the parties is therefore vitally important. In order to address the issues arising from the literature review, the Practitioner has developed and proposed a research strategy to empirically analyse the three main subcontract theoretical functions.

CHAPTER 5 RESEARCH STRATEGY

5.1 Introduction

This chapter presents the research strategy designed to investigate the root causes of disputes between main contractors and subcontractors. It justifies the choice of a qualitative approach, i.e. the use of practice-based inquiries and interviews as appropriate methods for research. It also explains the data collection and analysis methods and the limitations of the research. Most importantly, it includes the ethical considerations.

5.2 Paradigm and Justification

In order to investigate and fulfill the aim of the research study, the Practitioner is faced with the task of how to select a suitable research paradigm and associated methodology for the research (Esch, Esch & Cowley, 2013). A comparison of research paradigms used in the decision-making process is presented (Table 7).

Table 7: Comparison of Research Paradigms

Research Paradigms	Research Approach	Research Methods
Positivism	Quantitative	Surveys Longitudinal Cross-sectional, correlation Experimental Quasi-experimental Ex-post facto research
Interpretive	Qualitative	Biographical Phenomenological Ethnographical Case study Text analysis
Critical Theory	Critical and action-orientated	Ideological critique Action research

Source: Dash (1993)

The research paradigm refers to epistemological and ontological assumptions and undertakings that have guided the Practitioner about the nature of the world in the research study. The primary purpose of any research is to add something of value to the body of accumulated knowledge through the study of an unanswered question or

unsolved problem (Amarantunga et al, 2002). In the context of a professional doctorate the aim is to make a contribution to existing knowledge and to advance or enhance professional practice (Smith, 2009; Cole, Chase, Couch & Clark, 2011). As such, a research strategy is considered one of the most important elements in conducting research, particularly at doctoral level (Sutrisma, 2010, p.i) as it lies at the heart of research and provides the procedural framework within which research is carried out (Remenyi, Williams, Money & Swartz, 1998). For this reason, methodological techniques in particular, the methods of data collection, are critical to accomplishing the aim of a research project (Remenyi et al, 1998).

However, choosing research methods "…involves something much deeper than practicalities – it necessitates a philosophical solution to …*why research?*…" and "…*what to research?*…" (Holden & Lynch, 2004, p. 397). Consequently, it is seen as an essential prerequisite that a researcher considers the two most prevalent philosophical concepts – ontology and epistemology (Amarantunga et al, 2002). Usher argues that most researchers embrace these commitments implicitly when he said, "What we can conclude from this is that methods are embedded in commitments to a particular version of the world (an ontology) and ways of knowing that world (an epistemology)" (Usher, 1996, p. 13). In general, epistemology describes "how" the researcher knows about how knowledge should be acquired and accepted (Holden & Lynch, 2004). Ontology explains what knowledge is and assumptions about reality (Holden & Lynch, 2004).

5.2.1 Ontological Position

Ontology concerns the nature of reality, whether it is objective and external to humans or whether it is subjective "…the product of one's mind…" (Burrell & Morgan, 1979, p. 1). The two diametrically opposed philosophical approaches have been labeled with different paradigm names: *objectivist* – quantitative, positivist, scientific, traditionalist; *subjectivist* – qualitative, phenomenological, interpretivist, humanistic (Hussey & Hussey, 1997). Thus, a researcher's stance concerning their view of reality, or view of the world, is often seen as the foundation to all other assumptions about research (Holden & Lynch, 2004). According to Amaratunga et al (2002) whichever stance is taken, neither one is considered uniquely better than the other. As Holden

and Lynch (2004) argue '…there is no right or wrong philosophical stance' (Holden & Lynch, 2004, p. 407).

To take a subjectivist ontological position to research would entail the belief that researchers cannot divorce themselves from the subject matter or methods of data collection and analysis (Hunt, 1993). In other words, researchers cannot fully escape their inherent bias in the choice of what to study or how to study it (Easterby-Smith, Thorpe & Lowe, 1991; Creswell, 1994; Remenyi et al, 1998). Furthermore, as the goal of subjectivists is to study social phenomena in a particular contextual background (Easterby-Smith et al, 1991; Hughes & Sharrock, 1997), a researcher should participate actively in the subject under study (Hussey & Hussey, 1997) because "…phenomena are engaged in a process of continuous creation" (Hirschman, 1986, p. 238).

In stark contrast to the subjectivist position an objectivist undertakes research in a way that is free from the beliefs or interests of the researcher to avail having any influence at all in the results (Easterby-Smith et al, 1991; Creswell, 1994; Remenyi et al, 1998). Put another way, the researcher is "…independent of and neither affects nor is affected by the subject of the research" (Remenyi et al, 1998, p. 33). The most important aim for objectivists is to "…identify causal explanations and fundamental laws that explain regularities in human social behaviour" (Easterby-Smith et al, 1991, p. 23). To achieve their goal an objectivist researcher uses a hypothetico-deductive model or method by formulating a hypothesis in such a way that could be tested by observable data to verify or refute it (Remenyi et al, 1998).

The objectivist approach has been criticised in the study of social phenomena because in order to make sense of the complex nature of the social world i.e. humans, a researcher needs to understand the implied or explicit significance of interactive social behaviour (Hughes & Sharrock, 1997). Consequently, a subjectivist approach is more apt for studying social phenomena (Hughes & Sharrock, 1997). Conversely, subjectivism has been criticised because it potentially lacks a truly objective approach, in that it fails to separate the researcher from the study at hand and thus increases the likelihood of researcher bias (Hughes & Sharrock, 1997). In addition, such an ontological position may vary between individual persons and their environments (Morgan & Smircich, 1980). Furthermore, there is no sure way to compare theories in a subjective way to determine which is more accurate and so is deemed

incommensurable (Rosenau, 1992; Hughes & Sharrock, 1997). However, perhaps such debates on the correct philosophical stance to take will never result in any firm solution. For instance, if one takes the view that reality is external to humans, how is knowledge gathered about reality? Moreover, if knowledge is accumulated in this way, how can anyone know they are doing it? (Connell & Nord, 1996). Arguably one cannot "…discover a correct position on the existence of, let alone, the nature of reality" (Connell & Nord, 1996, p. 407). Hughes and Sharrock (1997) support this view, stating:

> Since the nature of philosophy, and its relationship to other forms of knowledge, is itself a major matter of philosophical dispute, there is, of course, no real basis for us to advocate any one view on these matters as the unequivocally correct conception of the relationship between philosophy and social research (Hughes & Sharrock, 1997, p. 13).

In summary, it can be concluded that a researcher's view of reality (or world view about human nature) is that it forms the bedrock to other assumptions about research i.e. whether reality is viewed as objective or subjective, or perhaps a mixture of the two. Consequently, a researcher's choice of methods is to an extent intrinsically rooted in an allegiance to a particular model of the world (an ontology), which will influence a researcher's view of what counts for knowledge, and how it can be acquired (epistemology).

5.2.2 Epistemological Position

Philosophers of research strategies have long debated how best to study the nature of knowledge (Amarantunga et al, 2002) and how it can be acquired; as Hughes and Sharrock (1997) put it, how "…is it possible if it is, for us to gain knowledge of the world?" (Hughes & Sharrock, 1997, p. 5). The debate is centered around two very distinct approaches, termed – quantitative and qualitative (Amarantunga et al, 2002). A quantitative or positivistic research design is rooted within the classical scientific philosophy of natural sciences, (Neville, 2007), placing considerable reliance on numbers and statistical data (Amaratunga et al, 2002). It is charactarised by a hard approach to research in that it seeks out hard facts of any social phenomena in a structured and quantifiable way (Neville, 2007). According to Collis and Hussey (2003) it is "…founded on a belief that the study of human behaviour should be conducted in the same way as studies conducted in natural sciences" (Collis & Hussey, 2003, p. 52). Thus, it is "…directed towards the development of testable hypotheses and theory…"

(Amaratunga et al, 2002, p. 22). It is concerned with acquiring knowledge through a methodology for ascertaining "…the truth-value of propositions…" (the truth or falsehood of a proposition) using a comparative and statistical method of analysis and replication of data collection in order to validate reliability (Amaratunga et al, 2002, p. 22). The main strengths of a quantitative approach include: easier comparison and replication of data; the study is independent of the researcher potentially reducing bias; and the methods utilised may be reliably justified more objectively (Easterby-Smith et al, 1991). However, this approach is not without its disadvantages, for example, it is not well suited to ascertaining "…deeper underlying meanings and explanations…' of human behaviour, as it uses methods which are inflexible and somewhat artificial (Amaratunga et al, 2002, p. 20). Furthermore, statistical and comparative analysis are "…not very effective in understanding processes or the significance that people attach to actions" (Amaratunga et al, 2002, p. 20).

By contrast, a qualitative or inductive research design is grounded in the social sciences (Neville, 2007), as such data is not expressed in numerical form, the emphasis is focused instead "…on the less tangible aspects of research subjects…" (Neville, 2007, p. 3). This position concentrates on the subjects being studied in a soft humanistic way, investigating human experiences, attitudes and understandings (Dainty, 2008). It places reliance on words and observations in order to understand human reality in real world situations, such as people in business organisations (Miles & Huberman, 1994; Amaratunga et al, 2002). Therefore, a qualitative approach intends to acquire knowledge about phenomena in perhaps a less structured or regimented manner so that richer and deeper information is obtained (Adejimi, Oyediran & Ogunsanmi, 2010). One important aspect of qualitative researchers is that "…they focus on naturally occurring, ordinary events in natural settings, so that there is a view on what real life is like" (Amaratunga et al, 2002, p. 21). This affords the researcher an opportunity to explore the complexity of people relationships '…in a real-life context and have a ring of truth" (Amaratunga et al, 2002, p. 22). Therefore, qualitative researchers are potentially ideally situated to uncover what quantitative researchers cannot, i.e. the meanings people put on occurrences, operations and structures of their lived environments, in other words their "…perceptions, assumptions, prejudgments, presuppositions" (Manen, 1977, p. 206). Thus, a qualitative approach

permits a researcher to adjust the data collection process as new issues and ideas emerge over time (Easterby-Smith et al, 1991). However, it is not without its weaknesses; as a qualitative approach tends to focus on the processes in data collection and its analysis; for instance, data collection may potentially be more labour intensive and its analysis more difficult to interpret or replicate (Easterby-Smith et al, 1991).

Each approach evidently has its own weaknesses and strengths, consequently "…there are no ideal solutions, only a series of compromises" (Amaratunga et al, 2002, p. 20). In some instances, the two positions may overlap so that both form part of a research study (Neville, 2007), as Brannen (2005) postulates, both positions "…may be concerned with people's views and actions" (Brannen, 2005, p. 175). In designing a research strategy however, the issues should not only include whether the researcher has conformed to the ideas of any particular approach but also whether one has made appropriate decisions on the methods to be used concerning the purpose of the study and the resources available (Amaratunga et al, 2002).

One of the most important considerations is the type of research question(s) being asked (Hedrick, Bickman & Rog, 1993; Remenyi et al, 1998). A useful categorisation is the "…"who", "what", "where", "how" and "why"…" type questions (Yin, 2014, p.1 0). Perry (1994) and Yin (2014) maintain that answers to the questions "what", "who" and "where" are better served by survey or archival type research analysis methods, where the aim is to investigate which elements are important that relate to a particular theory in a scientific way. Thus, it "…concentrates on measuring the scale, range and frequency…of phenomena…" and "…is highly detailed and structured and results can be easily collated and presented statistically" (Neville, 2007, p. 3). Large samples are usually required to gain statistically reliable results and to make generalisations from such results (Neville, 2007). Thus, it is advantageous if a researcher's aim is to describe the rate or frequency of, for example, use of a new form of construction subcontract. The "how" and "why" type questions are most suitable for such methods as interview or history (Yin, 2014) to uncover the potentially complex nature of the people being studied, resulting in data that is rich and deep, and situated in a real-life context (Amaratunga et al, 2002). For instance, where a researcher needs to identify "how" a new form of subcontract is being used and "why"

(or not). This enables a closer approximation to truth that aids a better understanding of a person's own real world, to understand "…operational links needing to be traced over time, rather than mere frequency or incidence" (Yin, 2014, p.10).

In conclusion, the emphasis of quantitative research is the acquisition of knowledge through analysing numerical data, measuring the size, scale and frequency of phenomena. The world is viewed as external and objective with the researcher being in theory truly independent of the research study. Quantitative methods are usually highly detailed, resulting in hard data that relatively lends itself to repetition, thus potentially increasing its reliability and credibility. In contrast, qualitative research is focused on collecting data that is more subjective in nature. A qualitative approach views the world as socially constructed and subjective. Unlike quantitative research, a researcher is to a degree purposely part of what is being studied. If quantitative research focuses on facts for example, identifying and counting the frequency of a particular response among a survey group; qualitative research on the other hand focuses on meanings, i.e. to try and understand and explain what is happening. A review of philosophy shows the inter-related concepts of ontology and epistemology central to a researcher's understanding of what and how to research, which will have implications for any research strategy.

5.2.3 The Practitioner's Research Paradigm

The aim of the research study is:

> *To identify and evaluate the potential root causes of disputes that arise between main contractors and subcontractors in the application of subcontract documents in the UK Construction Industry.*

The literature indicates that people understand and approach subcontracts in the way that they interpret and define them. As such, the research is primarily concerned with human behaviour and actions. By involving a variety of people, each will bring to the research a range of perspectives, including the Practitioner's own perspective. This should yield an outlook on the real-life use of subcontracts, to uncover empirical evidence of the root causes of disputes.

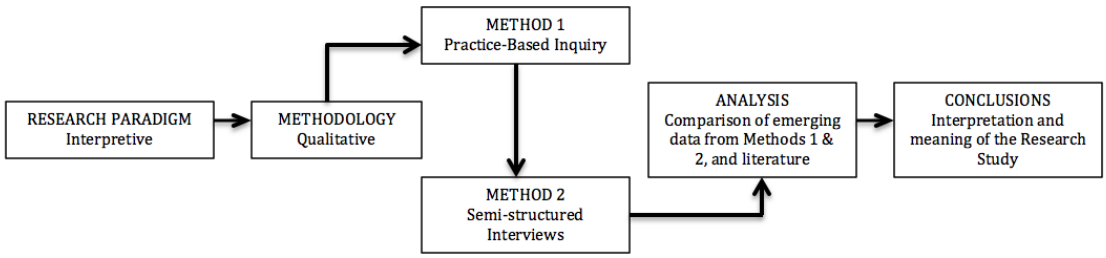
Subcontracting practice is socially constructed and subjective given that it is arguably too complex to be reduced to a theory viewed in external isolation. A positivistic position is curiously abstract; it describes the structure of reality using certain

equations, but it does not explain the reality that underlies it. Therefore, if reduced to quantitative measures, the socially constructed perspectives of individuals would not be capable of maintaining their essential features (Esch & Esch, 2013). The aim of the research relates to a real-world problem concerning construction disputes. Such an aim fits with the subjectivist or interpretivist research paradigm, as it can be argued that reality is constructed by the individuals involved (Fellows & Liu, 2008). According to Creswell (1998), with this type of research, findings emerge due to the interaction between the researcher and the participants; the research also advances because subjectivity is valued. In addition, because the practical knowledge that resides in the world of human interaction and meanings is sought, it is further justified and appropriate to undertake the research under a subjectivist paradigm (Esch & Esch, 2013).

5.2.4 Conceptual and Theoretical Framework

The Practitioner is using a qualitative approach for the research study under a subjectivist paradigm. The Practitioner's research approach is presented in diagrammatic form i.e. the research lens through which will focus his attention on different aspects of the data, and a framework with which to conduct the research (Figure 5).

Figure 5: Research Strategy



5.3 Justification of a Qualitative Approach for the Research Study

In order to investigate the aim of the research study it is the ambition of the Practitioner to obtain as much rich data as possible to gain a deeper personal understanding of why disputes arise between subcontractors and main contractors in the use of subcontracts under investigation, in a historical context. Data that "…is a source of well-grounded, rich descriptions and explanations of…" [subcontract] "…processes in identifiable local contexts" (Amaratunga et al, 2002, p. 25), which is

difficult to obtain through more quantitatively orientated methods of data collection. Denzin and Lincoln (2000) consider qualitative research to be a multi-method type of research, which adopts an interpretative and realistic approach; a humanistic and inherently literary focus. According to Van Maanen (1998), qualitative research can reveal deep understanding from past events that have occurred in a real-life context; meanings and processes through human interaction (Denzin & Lincoln, 2000).

According to Bhattacherjee (2012) qualitative research is very much dependent on the researcher's analytical and integrative skills, and personal knowledge of the social context where the data is collected, unlike quantitative analysis which is more statistics driven and largely independent of the researcher. In this context, Miles and Huberman (1994) consider that the researcher needs to be creative, ethical, and investigative, and understand the environment in which the participants reside. All of which would be difficult to produce from a quantitative research perspective (Van Maanen, 1998). The Practitioner is well placed to meet these criteria being actively involved in construction disputes between main contractors and subcontractors, including his role as an adjudicator.

5.4 Research Methods

Construction projects are very much a people orientated process, supplemented by considerable amounts of various documentation, for instance, letters, emails, plans, programmes, meeting minutes, etc. Therefore, it is deemed highly appropriate for the purpose of the research study to obtain data using documented records and accounts and the perspectives of participants from contracting organisations. Thus, the Practitioner intends to reveal the practices, knowledge, opinions and beliefs of participants and main contractor and subcontractor organisations.

The most common methods of primary qualitative research appropriate for the research study are examined. They include (1) observation/ethnography (Smith, 1992; Amaratunga et al, 2002; Silverman, 2005; Yin, 2011); (2) case study (Smith, 1992; Amaratunga et al, 2002; Silverman, 2005; Yin, 2011); (3) focus groups (Amaratunga et al, 2002; Silverman, 2005); (4) interview (Amaratunga et al, 2002; Silverman, 2005; Yin, 2011); and (5) texts and documents (Scott, 1990; Silverman, 2005; Yin, 2014).

5.4.1 Observation/Ethnography and Focus Groups

A researcher becomes a working member of an organisation or group to be observed, which can be very effective in the study of small organisations (Neville, 2007). It is concerned primarily with the observation and recording of human activity coupled with other data collection methods such as documents and/or interview (Amaratunga et al, 2002). Waddington (1994) considers that it is best suited to research that places special importance on human meanings, interactions and interpretations, where it is controversial and little understood. Accordingly, to research and understand '…the experience of people, the way they think, feel and act…' (Amaratunga et al, 2002, p. 25).

Participant observation may allow the Practitioner to explore at first hand the general underlying surface of the social processes of a subcontractual relationship, and thus the different variables involved, including the social interactions that can influence human behaviour. However, capturing disputes as they arise (or the circumstances that may give rise to disputes) and obtaining empirical data by observation in a live ongoing situation is unfeasible, the risk of it turning out to be inappropriate is potentially very high. Additionally, the potential risk of the Practitioner not being able to ask specific questions he would like and his presence potentially changing the behaviour of the participants studied out ways makes this method unsuitable.

5.4.2 Case Study

The distinguishing need for case study research emerges from the desire to understand complex social phenomenon (Yin, 2014) to allow a researcher to obtain a holistic and real-world perspective by studying organisational processes and relationships (Yin, 2014). It is a preferred method for examining contemporary events that cannot be influenced and manipulated (Yin, 2014). Yin (2014) highlights that a '…case study's unique strength is its ability to deal with a full variety of evidence - documents, artifacts, interviews, and observations – beyond what might be available in a conventional historical study' (Yin, 2014, p. 12).

It was the initial ambition of the Practitioner to undertake a case study approach that would have allowed him to extensively investigate the subject within its own setting (Johnston, Leach & Liu, 1999). Consequently, the Practitioner was going to conduct four case studies in an attempt to uncover the root causes of disputes. Each case study

would have focused on a particular dispute central to the research study in which the Practitioner was involved and which came out of his own practice. Having selected a particular case for investigation and analysis, the Practitioner was planning to interview participants from each of the contracting organisations.

Unfortunately, the Practitioner came to the decision that it was too risky to conduct case studies concerning disputes in which he was involved, as he would be acting as advisor and advocate for one of the parties. This meant that at least one party, perhaps both, would not want to be involved in case study research due to the protracted nature and ill feeling that is often generated in what is generally a hostile situation. In addition, some of the organisations that the Practitioner intended to select had fallen into liquidation, and some of the potential participants from other organisations had moved to work for other companies making this method unsuitable.

5.4.3 Text and Documents

Text and documents deal retrospectively with past events or occurrences, when direct observation is not possible with contemporary events (Yin, 2014). Historical research data relies on evidence from primary and secondary documents and physical artifacts where there is no requirement to control behavioural events (Yin, 2014). Examples of this type of data collection include archival records, documents and artifacts, which can be used to corroborate and augment evidence from other sources used in, for example, interviews (Yin, 2014).

As the aim of the research study emerged primarily from the Practitioner's practice experience, in conjunction with the literature; he is part of the context of the research as a participant reflective professional. In the context of the research study, practice-based documents may be analysed and interpreted in order to elicit meaning and understanding to establish empirical knowledge (Corbin & Strauss, 2008). Moreover, it may involve analysing documents that contain direct information about the subject matter under investigation, the root causes of disputes (Bailey, 1994).

The use of knowledge derived from practice research is widely accepted. For instance, Niedderer (2007) asserts that it is absolutely necessary for the accomplishment of any such research. However, the terminology used to describe it varies; "…practice-based…"; "…practice-led…" and "…practice-oriented…" are some examples (Dallow, 2003, p. 52). Notwithstanding, practice within research usually involves the researcher

engaging with their work, in order that it can be illuminated and brought into the open (Dallow, 2003). In achieving this, methodological approaches used by professional doctorate students within the built environment usually reflect those used by full-time academics within their areas of research (Chynoweth, 2007). There remains a tendency for such approaches to be dominated by scientific disciplines, in particular, the social sciences (Costley & Armsby, 2007a). According to Chynoweth (2008) this has an impact on what one may consider as knowledge and knowledge production. In addition, Chynoweth (2008) considers that such a narrow range of social science approaches may distort what may count as knowledge production and shadow an awareness of other creative techniques. These issues concern primarily what is regarded as valid and rigorous practice research, and how professional practice within research can be used to satisfy this criterion.

The Practitioner's practice will therefore be used in the process of the research strategy as the principal method to generate knowledge through critical reflection on various forms of documentation within a case setting (Practice-Based Inquiry). Thus, the Practitioner will draw upon and integrate practice-based knowledge within the research study, which is not available through the literature. This has been recognised by Painter (1996) and Piccini (2002) as "…arenas in which knowledge might be opened" (Piccini, 2002, p. 2). Meaning that practice is the research arena out of which knowledge becomes publicly available.

5.4.4 Interview

Interviews are the most widely used method of qualitative data collection (Amaratunga et al, 2002), which according to Khan and Cannell (1957) is "…a conversation with a purpose" (Khan & Cannell, 1957, p. 149), capable of producing information that is contextually rich and of great depth (King, 1994). Kvale (1996) described interviews as "…obtaining qualitative descriptions of the life world of the subject with respect to interpretation of their meaning" (Kvale, 1996, p. 124). Therefore, the main purpose of an interview is to obtain data from the point of view of the participant, and to understand how and why they may have come to a particular perspective of the described phenomena (Kvale, 1996). King (1994) provides guidelines in which qualitative interviews are considered most appropriate where:

> …study focuses on the meaning of particular phenomena to the participant…'[and]'…individual perceptions of processes within a social unit are to be studied prospectively, using a series of interview…' [and] '…individual historical accounts are required of how a particular phenomenon developed (King, 1994, pp. 16-17)

There are three main forms that interviews might take i.e. structured, semi structured and open (Neville, 2007). A structured interview involves using questions that have been decided in advance of the interview (Neville, 2007). Most research studies that are descriptive in nature favour this type of interview because the findings are much easier to test and analyse in an exacting manner (Yin, 2014). Like structured interviews, semi structured interviews use questions but in a less structured way, leaving room for new ideas, and improvisation, depending on the situation and the flow of the conversation (Amaratunga et al, 2002). Open-ended interviews on the other hand usually involve a set of questions or themes to be explored in a spontaneous way. Therefore, semi-structured and open-ended interviews are suited to explanatory or exploratory research studies to discover why and how things happen (Kvale, 1996). They are usually designed for exploring and probing the subject matter by attempting to understand meaning and understanding (Yin, 2014). According to Yin (2011) a structured interview is limited in its ability to fully understand trends and contextual conditions of the participants; whereas a semi-structured interview allows opportunity for the researcher and participants to consider and reflect on these trends and conditions.

Interviews are therefore considered an appropriate method because the Practitioner values the reality of what people say (e.g. Willig, 2009), and will produce spoken words and phrases to be analysed. The Practitioner considers that semi-structured interviews will strike the right balance between directing the course of the discussion and exploring new concepts and details that might emerge from the process (Reiman, 1979). Therefore, individual semi-structured interviews will be used as a qualitative method, to explore participants' events, experiences, ideas, perspectives and views about the causes of disputes. Interviews are commonly used in conjunction with documentation, which can assist in developing a broader picture (Esch & Esch, 2013). The two methods of (1) Practice-Based Inquiry; and (2) Interview are presented (Table 8).

Table 8: Data Collection Methods and Types of Data for the Research Study

Data Collection Method	Illustrative Type of Data	Specific Examples of Data
Practice - based Inquiries	Text/written documents	Practice-based cases, written accounts, dates, chronologies, practitioner critical reflections.
Interviews	Language (verbal & body)	Participant's explanations, recollections, opinions, fact based.

5.5 Data Collection

Sample size for qualitative research studies is generally much smaller than sample size used in quantitative research (Ritchie & Lewis, 2003). As Sandelowski (1995) puts it: "An aesthetic thrust of sampling in qualitative research is that small is beautiful" (Sandelowski, 1995, p. 179).

Guest, Bunae and Johnson (2006) assert that there is a lack of practical guidance for determining sample size. Charmaz (2006) suggests that because the aim of a research study is the ultimate determinative factor for the design of the research this will result in the appropriate sample size. According to Sandelowski (1995), it is the "…quality of information obtained per sampling unit, as opposed to their number per se…" that determines sample size (Sandelowski, 1995, p. 179).

Qualitative research typically involves purposeful sampling, unlike quantitative research, which typically involves probability sampling (Kuzel, 1992; Patton, 1990). Purposeful sampling is concerned with in-depth studies, "…information-rich cases…" (Patton, 1990, p. 169) whereby the researcher values the deep understanding allowed by such cases (Sandelowski, 1995). In qualitative research, occurrences, incidents, experiences and understandings are usually the things that are important to purposeful sampling, not people itself (Miles & Huberman, 1994; Strauss & Corbin, 1990).

Construction projects are very much a people orientated process, supplemented by considerable amounts of documentation. People are therefore central in all kinds of inquiry approaches in construction projects. They become part of qualitative research mainly by virtue of having direct and personal knowledge and experience of some event (in this research study context – construction disputes) that they are able and

willing to share with others (Sandelowski, 1995). Sandelowski (1995) suggested the following proposition as a concept to follow:

> An adequate sample size in qualitative research is one that permits – by virtue of not being too large – the deep, case-orientated analysis that is the hallmark of all qualitative inquiry, and that results in – by virtue of not being too small – a new and richly textured understanding of experience (Sandelowski, 1995, p. 183)

5.5.1 Practice-Based Inquiries - Sample

Qualitative research is purposeful (Creswell, 2009; Kuper, Lingard & Levinson, 2008) therefore the Practitioner is taking a purposive approach to select the practice-based cases to undertake the inquiries. Purposive sampling will be used to select cases that involve construction disputes between main contractors and subcontractors in the application of subcontract documents.

Cases selected for the sample will be chosen by the Practitioner's judgment, the sample target identified is four (4) cases to allow deep investigations. The Practitioner will focus on construction dispute characteristics involving contract documents from a pool of over 300 in-house cases that are of interest, which will best enable the Practitioner to answer the research aim and objectives. Initially, the Practitioner will compile a database of potentially relevant cases based on a scoping review. The inclusion criteria will be applied based on construction disputes in a context of a subcontractual relationship that are rich in information in order to provide significant insight into the particular phenomenon i.e. selecting information-rich cases for study in depth (Patton, 2015). From a pool of cases, the inclusion criteria will be applied to reduce the number to 10 that best meets the criteria. This selection will be further distilled to 4 cases for practice-based inquiries

Data will be generated through critical reflective inquiry using practice-based documentation from four historic construction cases that involved disputes relative to the aim of the study. This will involve situations where the Practitioner has been engaged to advise and/or represent parties involved in disputes in adjudication or arbitration.

Documents can obviously take many forms; the Practitioner intends to utilise the following (although this list is not exhaustive):

- Project Documents – letters, emails, site diaries, programmes, subcontract documents (terms and conditions, specifications, plans etc.), notices, and reports, variation orders.
- Adjudication and Arbitration Proceedings – project documents as above, parties' oral and written submissions.

Findings from the practice-based inquiries will provide a useful starting point for establishing interview questions prior to interviewing.

5.5.2 Semi-Structured Interviews – Sample

The sample target identified is sixteen (16) participants. Similar to practice-based inquiries, the Practitioner is taking a purposive approach to select the participants for interview. Criterion sampling will be used to select and invite participants from organisations known to have been involved in numerous disputes to partake in the research study.

To increase diversity, participants will be selected from eight (8) different organisations, four subcontractor and four main contractor organisations. Each participant will be carefully selected in collaboration with each organisation i.e. they will be seasoned professionals with 10 years or more professional experience and occupy a senior level within the organisation. To obtain a level of consistency with regard to the characteristics in the research study, chosen organisations will be relatively homogenous in terms of the number of employees, turnover, value of projects undertaken etc, but they will be selected from diverse industry sectors. Organisations will be selected from a number of sources to increase the likelihood of success.

The Practitioner will select organisations that are known to have been involved in various disputes from his own client pool. In addition, organisations may be chosen from trade associations and professional bodies, for example, the Confederation of Construction Specialists, which has subcontractor members; and the Chartered Institute of Building, which contains members from main contractor organisations.

Semi-structured interviews will be used for data collection to allow themes and areas of the research aim to be covered in a more flexible way, guided by the flow of conversation (Neville, 2007). Initially, arrangements will be made to interview selected participants within each organisation. Interviews will be recorded with participant consent. The advantage of such interviews, in addition to document

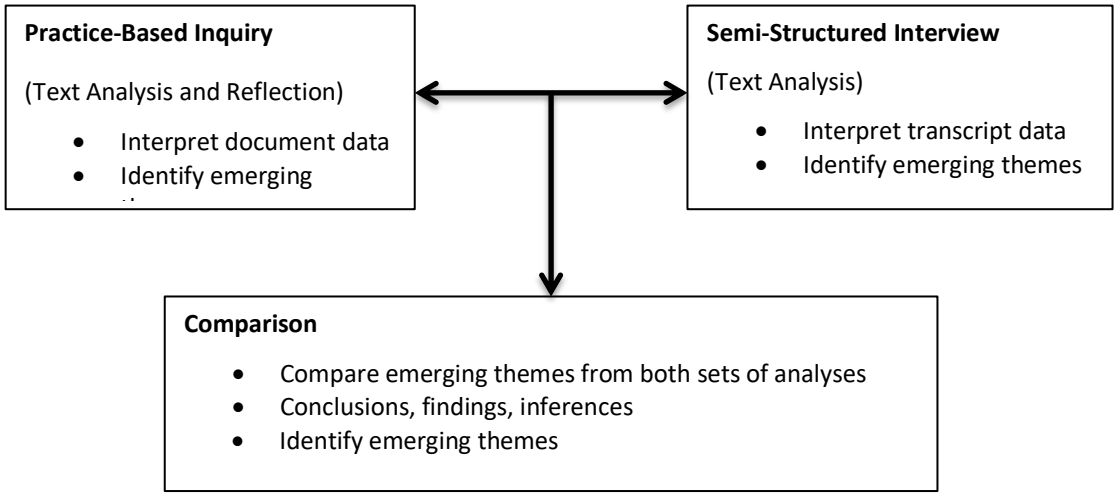
analysis, is that it will allow the Practitioner to explore and to discover the "how" and "why" questions, and to clarify answers (Aaker, Kumar & Day, 1998).

5.6 Methods of Analysis

Data analysis usually consists of examining, categorising, tabulating, interpreting and testing empirical findings (Amaratunga et al, 2002). Miles and Huberman (1994) have classified the analysis of qualitative data into three broad groups: (1) data reduction – condensing the collected data by selecting and simplifying it and reducing it to help form a conceptual framework; (2) display – typically the way that qualitative data has been displayed is by the use of extended text such as case study report (Taylor, Sinha & Ghoshall, 2008); and (3) conclusion and verification – interpretation and conclusion of the data analysis.

For the research study the data analysis will be based on empirical data obtained from the Practitioner's practice-based inquiries and interview transcripts. The Practitioner will need to make sense of a lot of unstructured, and to some extent ambiguous data in the form of practice-based knowledge and interview transcripts. The approach to data analysis in the research study is presented (Figure 6).

Figure 6: Approach to Data Analysis



The Practitioner will analyse the results from both methods using the hermeneutics theory and methodology of text interpretation.

In an attempt to understand the text as whole in a hermeneutic way, the Practitioner must establish an understanding of the individual parts by reference to the whole text. In other words, the individual parts of the text or the whole text can be understood

without reference to one another (Gardiner, 1999). In addition, it is also necessary for the Practitioner to appreciate that the text is to be found within its cultural, historic and literary context (Gardiner, 1999). Given that the prominence of qualitative research is concerned with understanding and interpretation, the hermeneutic way of understanding text is particularly suitable (Gadamer, 1996). In fact, hermeneutics is seen by many to cover all interpretative acts in the social sciences (Rorty, 1991). Indeed, Rorty (1991) and Sandywell (1996) suggest that hermeneutics expresses the connected processes of all human understanding; qualitative research is concerned with the same subject (Kinsella, 2006). It follows therefore that hermeneutics may "…potentially enrich and deepen the conceptual foundations of…" the Practitioner's research study from a qualitative perspective (Kinsella, 2006, p. 2). A hermeneutic approach thus seeks understanding of text rather than to simply explain it (Jardine, 1992).

In seeking understanding Bontekoe (1996) points out that this occurs only when there is recognition of the significance of the various elements that the interpreter notices and identifies the way in which they relate to each other. One of the quality features of hermeneutics is its ability to embrace ambiguity (Gadamer, 1992). It resists the idea that there can only ever be one single authentic reading of a text, and thus acknowledges the complexity involved in the interpretation process (Jardine, 1992). Gardiner (1999) eloquently summarises the active role of the Practitioner, as interpreter, in the hermeneutic interpretation:

> The hermeneutic approach stresses the creative interpretation of words and texts and the active role played by the knower. The goal is…sympathetic engagement with the author of a text…and the wider socio-cultural context with which these phenomena occur (Gardiner, 1999, p. 63).

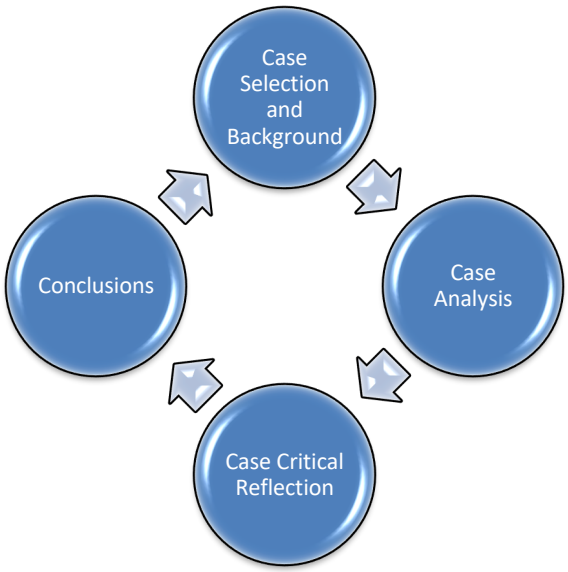
In this way the Practitioner aims to understand texts viewed through his own historical and cultural perception and experience.

5.6.1 Practice-Based Inquiries Analysis

Two of the most well-known models for structuring reflection are Kolb's (1984) learning model and Gibbs' (1988) reflective cycle. Both these models are useful in assisting a researcher to think about the various phases of an experience or an event. Reflection is an integral part of the learning experience. Apart from the fact that Kolb's model follows a cycle consisting of four stages and Gibbs' cycle consists of six stages,

they are very similar in their aim and purpose. This makes them ideally suited for the practice-based inquiries. Therefore, adapting these the Practitioner will conduct in-practice research using documents to investigate and critically reflect on disputes conceptualised in the Practice-Based Model of Inquiry (Figure 7).

Figure 7: Practice-Based Model of Inquiry



Stage 1 – Case Selection and Background:

1. Select practice-based case for analysis relevant to the aim of the research study. To do this the Practitioner will select a case involving disputes from his data archive
2. Identify relevant documents for analysis (sampling of documents). This will involve reviewing various documents and selecting those which are relevant to the dispute.
3. Describe the background to the case (parties/Practitioner's role/dispute)

Stage 2 – Case Analysis (What the data says):

For each case the following will be identified for each document:

- The author of the document and their position/role
- The intended audience
- The purpose of the document
- The type of document
- When it was written
- Any unique characteristics
- The meaning of the document

Stage 3 – Case Critical Reflection (What the data means):

For each case the collected data will be analysed by:

1. Discern central and recurring themes by forming the data into units to identify specific points in the narratives that relate specifically to the research aim.
2. Compare the literature with the practice reflection

Stage 4 – Framework for Categorising the Root Causes of the Dispute (What has been learned):

For each case the potential root causes of the dispute will be identified by:

1. Identifying the contributing factors that gave rise to the dispute
2. Identifying the related source of the dispute from the literature
3. Identifying the potential root cause(s) of the dispute
4. Raising questions that emanate from the framework for interview (Research Method 2)

5.6.2 Interview Transcript Analysis

The Practitioner is undertaking the research study under a subjectivist paradigm. As such, "…knowledge is relative to particular circumstances – historical, temporal, cultural, subjective- and exists in multiple forms as representations of reality (interpretations by individuals)" (Benoliel, 1996, p. 407). In this context, the Practitioner will need to make sense of the interview participants accounts and understandings in an attempt to interpret their meanings as told by them. This will involve organising and distillation of interview data, and categorising themes found in it. The Practitioner will define what is happening in the data and attempt to discover what it means i.e. making sense of the data and developing knowledge.

Researchers adopt grounded theory more often than any other method of analysing qualitative data (Morse, 2009; Yamazaki et al, 2009; Bryant & Charmaz, 2007), and use interviewing more frequently to collect data than any other form of data collection (Charmaz & Belgrave, 2012). Grounded theory sits well with the subjectivist nature of the research because, "…the method is useful in developing context-based, process-oriented descriptions and explanations of phenomenon" (Lawrence & Tar, p. 31, 2013; Urquhart, 2001; Myers, 1997). In this perspective of grounded theory, Charmaz (2014) advocates that coding is an essential link between the data and the discovery of

emerging themes. By coding one can identify the relevant data so that it can be analysed for meaning and value (Charmaz, 2014).

Consequently, the use of grounded theory technique for analysing interview data is entirely appropriate for the Practitioner's research study. The process of analysis will involve coding interview data comprising open, axial and selective coding, and taking field notes – immediately reflecting on the interview, and thematic sampling (Charmaz, 2014).

5.6.2.1 *Open Coding*

The Practitioner will read through the data (sentence or paragraph of speech) and highlight (code) as many interesting parts as possible in an open-ended and exploratory way. It is "…the analytical process through which concepts are identified and their properties and dimensions are discovered in data" (Lawrence & Tar, 2013, p. 32). The Practitioner will break down the data into discrete parts, examine it and look for similarities and differences (Strauss & Corbin, 1990). Identification of concepts will be derived from the data rather than imposed from outside (Olikowski, 1993).

5.6.2.2 *Axial Coding*

The Practitioner will identify relationships between categories and subcategories among the fractured open coding. The data will be effectively rebuilt to bring coherence to the emerging analysis. Although open coding and axial coding are discrete processes they can in fact be undertaken in tandem (Strauss & Corbin, 1990). In theory, as axial coding proceeds, patterns should emerge in the data with instances of variations and contradictions (Strauss & Corbin, 1990).

5.6.2.3 *Selective Coding*

In the final stage of coding, the Practitioner will identify core categories and relate all other subcategories to each one of the core categories accordingly. The purpose of this is to develop a conceptual framework "…into a theory, which accounts for the phenomenon being investigated" (Lawrence & Tar, 2013, p. 33; Darke, Shanks & Broadbent, 1998) - in other words, to explain what is going on.

5.6.2.4 *Field Notes*

The Practitioner will take field notes immediately after each interview, to reflect on what he learned from the interview (his impressions, and the participants reactions, new thoughts, emerging new insights). The notes will contribute to the analysis.

5.6.2.5 *Thematic Sampling*

Thematic sampling involves two analytical processes – constant comparison and theoretical sampling (Glaser & Strauss, 1967). In regard to constant comparison, the Practitioner will select a limited number of codes that were developed in the initial phase and apply them to large amounts of data (Lawrence & Tar, 2013). This will involve selecting coded data and comparing it with other data, which is then "…assigned to clusters or categories according to obvious fit" (Lawrence & Tar, 2013, p. 34; Glaser, 1978). In this way, "…coded data is constantly confronted with new data for verification" (Lawrence & Tar, 2013, p. 34). Theoretical sampling will involve the Practioner in analysing the interview transcripts for emerging categories that distinguish the narrative and seem noteworthy. It is the development of theory as it emerges (Glaser, 1978). Both constant comparison and theoretical sampling display recurrent processes which are flexible and fluid, whilst ensuring that analysis is planned and suitably rooted in the data, and not outside influences (Lawrence & Tar, 2013).

5.6.3 Linking Empirical Findings with the Literature

Considering that there is considerable literature relating to the subject of the root causes of disputes, the relationship between the empirical findings and conclusion will be explored with the literature. Conclusions drawn from the comparative analysis and the empirical findings with the literature will be used to formulate final conclusions.

5.7 Limitations of the Research

There are some limitations that need to be acknowledged. The Practitioner will be carrying out the research independently, however if several researchers were involved then undoubtedly the scope could be broadened for example, by incorporating data from multiple subcontractors and main contractors and practice-based inquiries, providing deeper insights into the research area. The scope could also be broadened across various types of construction projects, for example, residential, offices, and hospitals, including different industry sectors such as mechanical, electrical, roofing, and flooring.

A further limitation is the sample size of only four organisations from each type of contractor group and four practice-based inquiries, therefore offering relatively small

scale and isolated examples. In consequence, conclusions drawn from the findings will not be able to be safely extended to the entire subcontracting community.

Attempting to establish the root causes of disputes is a difficult proposition, as they are one of the most contentious issues on a construction project. Therefore, objective data can be difficult to locate due to, for example, poor record keeping, a lack of accurate procedural accounts, or organisations treatment of dispute data as confidential. As the organisation samples will not be randomly selected, data and information in the research study may not be applicable to the industry as a whole. However, every effort to portray accurately disputes associated with the use of written subcontracts in the UK construction industry will be made.

The findings will be based on the views of the participants interviewed and the interpretations of the documents and discussions concerning the practice-based inquiries, and so there is a potential for bias and misinterpretation with respect to the root causes of disputes.

5.8 Ethical Considerations

The Practitioner's ethical responsibilities in planning and executing the research have been considered with "…the overarching principle of academic integrity and honesty, and respect for other people" (Punch, 2012, p. 56) concerning "…privacy, consent, confidentiality, deceit, and avoiding harm to those involved…" (Morton & Wilkinson, 2008, p. 43).

The Practitioner will in relation to the interview method: (1) provide full information about the research to the participants of the selected organisations; (2) obtain written informed consent from the participants prior to commencement of the research, and; (3) obtain ethical approval from the University of Salford before undertaking the doctoral research. In order to protect the identity of the participants, the Practitioner will not reveal the identity of participants in any part of the research study. Only a number and/or letter coding system known to the Practitioner will identify participants. All data will be treated with the utmost confidentiality. The documents to be used in the practice-based inquiry are not in the public domain they are retained by the Practitioner as part of his business archive. Consequently, the parties to whom the documents relate, and the Practitioner are the only persons with knowledge of its

existence and content. There is no intention that the documents themselves will form part of the research; data will be extracted from them about the causes of disputes relevant to the aim of the research, and reflected upon by the Practitioner in the practice-based inquiry.

Data will be completely anonymised and so that there will be no way of identifying the parties or the cases involved. For example, all identifying details (i.e. place and company names, participants etc) will be removed and replaced with coding and pseudonyms. Only the Practitioner (and, if required for validation purposes, the Supervisor) will have access to the documents. Electronic data will be encrypted, password protected, and saved on the Practitioner's computer main hard drive. Data will remain the property of the Practitioner and be securely stored for 6 years, in a locked storage room and then destroyed (shredded) on the Practitioner's business premises.

The practice-based inquiry data collection will be conducted in the Practitioner's practice using historic documents from dispute cases that he was involved. By contrast, the interviews will be conducted in the interviewee's own organisation. There will be no connection between the practice-based inquiry and interviews. There are no known personal or participant safety considerations associated with the research. The research strategy was approved by the Ethical Approval Panel, of the University of Salford, on 8th August 2016.

CHAPTER 6 PRACTICE-BASED INQUIRIES

6.1 Introduction

As the party advocate or advisor in all the cases presented for the practice-based inquiries, it is more appropriate to use a first-person perspective in the written content in order to demonstrate my position within the research. Infusing the content with the first-person provides authenticity and places the reader within an experience that brings reality into the open.

6.2 Access to Documents and Bias

All the practice-based inquiries concern disputes that were referred to adjudication by the subcontractor save for one referred to arbitration. In each case, I acted as an advisor to the subcontractor, and advocate during the adjudication/arbitration proceedings. The parties involved in the practice-based inquiries were not involved in the interviews.

Prior to adjudication/arbitration, I was provided with the subcontractor's explanation of the dispute and supporting documents generated by both parties during the course of the subcontract; this formed the basis of the subcontractor's case for referral to adjudication/arbitration. During the adjudication/arbitration proceedings, the main contractor provided its own case, and documents not necessarily relied upon before. This documentation was used for each practice-based inquiry.

As advisor and advocate, my focus was on representing the subcontractor towards resolving the dispute in its favour, therefore the documentation was derived for that purpose alone. Consequently, I acknowledge that there may be documentation in existence that was not used at the time, which I did not have access to for the purpose of the practice-based inquiries that may have had some bearing on the root causes of the dispute. To avoid potential bias, I have reviewed all documentation in my possession being careful to select for analysis any document that I consider relevant to unearth the root causes of the dispute. Where necessary, I have presented all documents as verbatim as possible.

The benefit of using the documents was that some were extremely detailed and yielded much more information than perhaps could have been gained from an interview. In addition, they were particularly useful for tracking change over time

retrospectively. Some of the documents contain contemporaneous data and refer to actions that were recorded in a specific context, not with a view to being subjected to analysis for the purpose of a research study. Moreover, some of the documents contained data that discussed admissions or confessions that provided me with insight into how the parties saw things, their knowledge and understanding, and how they conducted themselves. Either way, the documents provided a very particular account of subcontracting reality whatever the parties' motivation behind their account.

In the reflection stage of the practice-based inquiries, I have remained open minded with a measure of detachment from myself. Notwithstanding, "There are no guarantees, no bedrock from which verities can be derived. It is in the nature of research that knowledge can always be revised" (Norris, 1997, p. 175).

6.3 Structure of the Practice-Based Inquiries

Each practice-based inquiry broadly follows the same structure, but any slight variance in format was dictated by the circumstances surrounding the dispute and the adjudication/arbitration proceedings. To set the scene and put the dispute into context, they start with a description of my involvement with the subcontractor, the background to the dispute and the chronology of events leading up to the adjudication/arbitration. Thereafter, they describe and analyse the parties' written submissions and evidence during the adjudication/arbitration and the adjudicator's/arbitrator's reasons for his decision/award. I then provide my critical reflection concerning the dispute for each practice-based inquiry, and finally I present a framework for categorising the potential root causes of the dispute.

6.4 Practice-Based Inquiry – 1

Practice-Based Inquiry – 1 concerns a dispute between a Main Contractor and a Subcontractor concerning three variation claims by the Subcontractor, referred to adjudication for resolution.

6.4.1 The Parties

The Subcontractor is a company that designs, supplies, installs and services suppression fire protection systems in the UK construction industry. It has over 30 years-experience of installing fire protection in new and existing buildings. It employs around 50 people with a turnover of around £10m.

The Main Contractor designs and installs building services such as air conditioning, heating and fire control systems, and mechanical and electrical installations in the UK construction industry. It employs around 270 people and with a turnover around £60m.

The Main Contractor and the Subcontractor are hereinafter collectively referred to as the Parties. In addition to the Parties, reference is made to other third party and individuals identified as follows:

- Design Engineer – (*Subcontractor*) responsible on behalf of the Subcontractor for design of sprinkler systems, site inspections, surveys and producing record drawings (witness statement, p.1).
- Contract Manager – (*Subcontractor*) responsible on behalf of the Subcontractor for supervision of the installation of sprinklers from receipt of order to completion including allocation of workforce, placing orders, site visits and meetings, and contractual correspondence (witness statement, p.1).
- Commercial Director – (*Subcontractor*) responsible on behalf of the Subcontractor for reviewing tender enquiries, undertaking compilation of estimates, preparation of proposal documents and negotiating contracts including in-house contractual advice (witness statement, p.1).
- Quantity Surveyor – (*Subcontractor*) responsible on behalf of the Subcontractor for the day-to-day commercial aspects of the sprinkler installation including valuing interim applications, variations and final accounts (witness statement, p.1).
- Senior Project Manager – (*Main Contractor*) responsible on behalf of the Main Contractor for supervision on site of the mechanical and electrical installations including the sprinkler system (witness statement, p.1).
- Electrical Project Manager – (*Main Contractor*) responsible on behalf of the Main Contractor for the concept design and installation of the electrical installations including the sprinkler system on site (witness statement, p.1).
- Consulting Engineer – (*Client*) responsible on behalf of the Client for the concept design and installation of the mechanical and electrical installations including the sprinkler system (witness statement, p.1).
- Client - the School (end user) under a main contract with the Main Contractor for the provision of mechanical and electrical installations including sprinkler protection in the school.
- Adjudicator – an independent third-party person appointed by an authorised adjudicator nominating body responsible for making the decision between the Parties.

6.4.2 The Practitioner's Involvement

The Subcontractor made three variation claims for additional works due to an alleged change in the design of the scope of works. The Main Contractor disagreed and consequently a dispute arose between the Parties concerning the validity of the three variations. The Parties attempted to resolve the dispute by negotiation but failed, resulting in the Subcontractor referring the dispute to adjudication for resolution by an independent third-party Adjudicator.

I was appointed in October 2011 to prepare the Subcontractor's case for referral to adjudication and to act as advocate during the adjudication proceedings. Briefly, this involved preparing an initial submission (known as a Referral) setting out the Subcontractor's case together with all the information that we wanted the Adjudicator to consider; this included drafting witness statements on behalf of the Subcontractor. For example, the submission explained the nature of the dispute and how it arose, it detailed the facts relied upon supported by documentary evidence, it provided details of the Subcontractor and the contractual remedies which were sought and listed the orders that we required the Adjudicator to make.

Adjudication is a non-judicial statutory procedure by which any party to a construction contract has the right to have a dispute decided by an adjudicator. The adjudication process involves an independent adjudicator who makes a relatively quick decision concerning the parties' dispute. The decision of the adjudicator is binding on the parties, unless the dispute is finally determined by legal proceedings or arbitration.

6.4.3 Background to the Dispute

In early May 2009 the Main Contractor invited the Subcontractor to tender for the design and installation of a sprinkler system and other works as part of a new school. Tender enquiry documents in the form of drawings and specifications were sent to the Subcontractor for the purpose of providing a tender price. At the beginning of July 2009, the Subcontractor provided a tender price, which the Main Contractor accepted subject to the issue of a subcontract order (**Subcontract**).

At the beginning of August 2010, the parties held a pre-subcontract meeting to discuss various matters relating to the project and subcontract particulars. Within a day or two following the meeting the Main Contractor sent a Subcontract that the

Subcontractor accepted. The Subcontractor commenced work on site the day after receipt of the order, i.e. 4th August 2010.

On 5th August 2010 after the Subcontractor had commenced work on site it was given access to a collaborative Extranet (internet cloud file) containing drawings and other documents. It was the Subcontractor's responsibility to access the Extranet and check for information on a regular basis.

During the construction phase of the project the Subcontractor identified the need for additional sprinkler protection in various locations of the building. This culminated in the Subcontractor making claim for three variations, briefly described:

Note: The three variations are numbered 9, 11 and 12 because they were the ones in dispute. Variations 1-8 and 10 had been agreed.

6.4.3.1 *Variation 9 – Sprinkler Void Protection*

In January 2010, the Subcontractor noticed when accessing the Extranet that the architect's drawings showed or indicated voids between the underside of the roof and the suspended ceilings to the first and second floors of the building. As the voids were in excess of 800mm deep, they required sprinkler protection. According to the Subcontractor this requirement was not shown or evident from the tender drawings. The Subcontractor valued this variation in the sum of £28,363.00.

6.4.3.2 *Variation 11 – Sprinkler Bulkhead Protection*

In March 2010, the Subcontractor noticed when accessing the Extranet that the architect's drawings showed that bulkheads within classrooms enclosing ductwork were wider than the same bulkheads shown on the tender drawings. Consequently, the increased width meant that sprinkler protection was required to the bulkheads. The Subcontractor valued this variation in the sum of £42,120.00.

6.4.3.3 *Variation 12 – Sprinkler Hub Balconies Protection*

This variation was for additional void sprinkler protection to what was called the Hub balconies. This was an open communal space called the Heart Space. The tender drawings did not show a requirement for sprinkler protection to the balconies because the area was supposed to be designed as an external space not requiring protection. However, it became apparent in January and February 2010 that the building specification in the balcony area failed to meet the criterion to be classed as an

external space, thus requiring sprinkler protection. The Subcontractor valued this variation in the sum of £54,418.

6.4.4 Chronology of Events Pre-Adjudication

Variation 9 – Sprinkler Void Protection - In January 2010, the Design Engineer (*Subcontractor*) was the first person to identify the possible need for additional fire protection. From my contemporaneous notes of a meeting with me in November 2010, the Design Engineer (*Subcontractor*) said:

> Our initial design, which formed the basis of our quotation, was based on [Main Contractors] enquiry documents. The drawings, which we received, showed the scope of works for us to produce our design and tender price. The drawings clearly show the extent of sprinkler protection required and do not include sprinkler protection as required by variations 9, 11 and 12. Concerning variation 9, in early January 2010 I noticed that one of the [architects] drawings showed a section through the building indicating that void protection may be required. I discussed the possible need of void protection with our Contract Manager.

Following this discovery, the Contract Manager (*Subcontractor*) wrote to the Senior Project Manager (*Main Contractor*) on 3rd February 2010 to advise him of the situation. He said:

> Further to our in-depth design review of the fire strategy…the second-floor voids will require full protection. The full implications and associated costs to comply are currently being collated.

Variation 12 – Sprinkler Hub Balconies Protection - From my contemporaneous notes of a meeting with me in November 2010, the Design Engineer (*Subcontractor*) said:

> On 25th January 2010 we held an internal meeting to review various aspects of the overall design of the sprinkler system. The tender drawings show that the Heart Space area was to be classed as an external space not requiring sprinkler protection. On 27th January 2010 I was advised by [Subcontractor's Project Manager] that following his discussions with [Main Contractor's Client's Consulting Engineer] on site that the Heart Space area was not designed to meet the necessary criterion. This meant that sprinkler protection was required in this area.

Following this discovery, the Contract Manager (*Subcontractor*) wrote to the Senior Project Manager (*Main Contractor*) on 3rd February 2010 to advise him of the situation. He said:

> Further to our in-depth review of the fire strategy and after discussion on site last week with [Main Contractor's Client's Consulting Engineer]. There are two

main areas that do not have sprinkler protection shown on the tender drawings, on which we based our tender.

1. Heart Space balconies.
2. [Not applicable for this practice-based inquiry]

To fully comply [with statutory requirements and British Standard] we believe these areas will require full sprinkler coverage. The full implications and associated costs to comply are currently being collated.

Variation 11 – Sprinkler Bulk Head Protection - From my contemporaneous notes of a meeting with me in November 2010, the Design Engineer (*Subcontractor*) said:

> At the beginning of March 2010 when accessing the Extranet, I noticed that [architect's] reflected ceiling plans showed bulkheads to the second floor in excess of 800mm and consequently sprinkler protection would be required. The tender drawings show that bulkhead dimensions are 750mm x 450mm and do not need sprinkler protection.

Following this discovery, the Design Engineer (*Subcontractor*) emailed the Consulting Engineer (*Client*) on 3rd March 2010 to advise him of the situation and said:

> I am currently in the process of revising the sprinklers on the second floors of all blocks. Can you please advise on the width of the bulkheads within the classrooms that enclose the ductwork, as the ceiling plans say they are 850mm in width and the section shows they are 700mm in width protection will need to be provided in them if they are 800mm or wider.

Variations, 9, 11 and 12 - Following the discovery of the need for additional sprinkler protection concerning these variations, the Contract Manager (*Subcontractor*) wrote to the Senior Project Manager (*Main Contractor*) on 17th March 2010 and said:

> The fire strategy and tender drawings, on which we based our original scheme and quotation, omits sprinkler protection to the following areas…[reference to areas later to become the subject of the variations dispute]. To comply with the requirements of all areas require sprinkler protection. We require your acknowledgment and instructions that the works detailed are required…we have under separate cover, issued variation details for works… We…await your instructions…

In response, the Senior Contract Manager (*Main Contractor*) wrote to the Contract Manager (*Subcontractor*) on 12th May 2010. He said:

> Your Subcontract Order…clearly confirms the scope of works. You are to provide a design for a fully operational sprinkler system that is compliant with…[statutory requirements and British Standards]. No variation will be issued unless client driven. The client has only issued one instruction we see no requirement to issue any further instruction to yourselves.

In response, the Commercial Director (*Subcontractor*) wrote to the Senior Project Manager (*Main contractor*) on 9th June 2010. He said:

> We take this letter as your instruction to design, supply and install a fully operational sprinkler system in line with including any variation works which may be required.

Thereafter, the Subcontractor proceeded to design and install additional sprinkler protection and seek payment through interim payment applications, which the Main Contractor refused to pay. This resulted in the Commercial Director (*Subcontractor*) writing to the Senior Project Manager (*Main Contractor*) on 23rd June 2010. He said:

> We would consider a dispute to have crystallised and may seek to resolve the dispute by adjudication we would be willing to enter into negotiations.

The Main Contractor acknowledged its desire not to enter into adjudication and the Senior Project Manager (*Main Contractor*) wrote on 25th June. He said:

> We propose a meeting be arranged…[reference to date of meeting] please have available all substantiating documentation and drawings. We reiterate that previous letters clarify the content of your order and do not instruct any further scope to your contract.

A meeting was held on 27th July 2010 between the Parties to discuss the additional sprinkler protection. The Parties did not reach an agreement. No formal minutes were taken but the Quantity Surveyor (*Subcontractor*) emailed the Senior Project Manager (*Main Contractor*) on 28th July 2010 and said:

> We will be forwarding all our relevant variation package for…[Main Contractor] to put forward to…[Client] on our behalf as agreed.

The Parties agreed to a further meeting once the Main Contractor was in possession of the requested information. Thereafter, the Subcontractor issued the requested information, however the Main Contractor was not satisfied with it and the Senior Project Manager (*Main Contractor*) said in an email dated 6th August 2010:

> We were expecting marked up drawings demonstrating the difference between your tender allowance and as-installed drawings.

The Quantity Surveyor (*Subcontractor*) therefore re-submitted the information in accordance with the Senior Project Manager's (*Main Contractor*) request and said in a letter dated 12th August 2010:

> Following your submission of our Variations to …[Client], please keep us informed with regards to any comments.

The Subcontractor did not receive any further communication from the Main Contractor concerning the submission of the information to the Client.

Following this impasse, a period of about 2 months elapsed before the Subcontractor made a decision to instruct me in October 2010 to prepare its case for referral to adjudication and to act as advocate during the adjudication process.

6.4.5 The Adjudication

I worked on preparing the Subcontractor's case for referral to adjudication from October 2010 until March 2011. The adjudication proceedings started on 18th March 2011 and were completed with the Adjudicator's Decision on 3rd May 2011. The Subcontractor framed the dispute in the following way:

> *Variations 9, 11 and 12 constitute variations under the subcontract altering or modifying the design and installation of the sprinkler system entitling the Subcontractor to additional payment.*

What follows is my review of the adjudication based on the Parties' written submissions and the Adjudicator's reasons for making his Decision. In the process of doing this, the manner in which the Parties formed the subcontract is discussed and analysed. The adjudication involved certain aspects, which are irrelevant to the research study. For example, the Adjudicator appointed an expert quantity surveyor to review the voluminous number of drawings concerning the number and location of the sprinkler protection. It was therefore not necessary to introduce this aspect of the adjudication. Therefore, the analysis is limited to certain aspects only concerns the aim of the study.

During the adjudication process the Parties made various submissions. Reference is made to those submissions identified as follows:

- Referral – The Subcontractor's detail of its case and supporting evidence.
- Response – The Main Contractor's detail of its case in response/defence to the Referral and supporting evidence.
- Reply – The Subcontractor's further submission addressing new points raised in the Response.
- Decision – The Adjudicator's written Decision based on the Parties' written submissions and evidence.

6.4.5.1 *Invitation to Tender*

On 12th May 2009 the Main Contractor sent tender enquiry documents to the Subcontractor inviting it to tender for the design and installation of sprinklers in a school. The tender enquiry included a list of drawings and specifications that had been issued on a disc previously to the Subcontractor in early May. Particular details given concerning the scope of works:

First description from section 1 of the tender enquiry document:

> *Scope of the Sub Contract Works required:*
>
> *Design, Supply, Install, Test & Commission Fire and Security Alarms, Disabled Refuge Alarms and Sprinkler System*

Second description from section 3 (Mechanical Specification) of the tender enquiry document:

> *The entire Sprinkler System to be designed, installed, tested and commissioned in accordance with the requirements of BS5306 Part 1: 'Rules for Automatic Sprinkler Installation 1990 inclusive of Loss Prevention Council, Technical bulletins (Specifically LPC TB 34 Sprinkler protection to schools) to property protection).*

6.4.5.2 *Tender Offer*

The Subcontractor submitted its tender offer on 1st July 2009 in a single document.

Particular details given concerning the scope of works:

Third description from section 2 of the tender offer:

> *The works comprise the supply, delivery to site, off-loading, installation, testing and commission of the completed installations.*

The basis of the third description from section 2 of the tender offer was stated as:

> *The scope of work is based on:* [reference to a list of drawings produced by the Consulting Engineer].

The drawings show a schematic layout of the proposed areas for sprinkler installations that the Consulting Engineer (*Client*) had considered were required.

The basis of the third description from section 2 of the tender offer was qualified to the following extent:

> <u>*Qualifications*</u>
>
> *The price is based upon the drawings listed above* [Consulting Engineer's drawings] *and as such does not account for items of which we have not received details. Should any further information be forthcoming which varies our proposal then our costs would be adjusted accordingly.*

Fourth description from section 4 of the tender offer:

> *Our budget costs to design, supply, install, test and commission a fully automatic sprinkler system compliant with the scope of work is:* [reference to the price quoted].

6.4.5.3 *Pre-Subcontract Meeting*

Subsequent to the tender offer the Parties attended a pre-subcontract meeting on 6th July 2009 to discuss particular requirements of the project. Meeting minutes were produced and submitted to the Subcontractor following the meeting. The purpose of the meeting is stated as:

> *…to fully discuss the proposed Subcontract works and to agree to a mutually acceptable Subcontract order*

Particular details concerning the scope of works:

Fifth description from the meeting minutes:

> *Design, deliver, install, test and supply all necessary labour and materials to provide a fully operational sprinkler system to blocks…*[reference to various blocks of the school building] *and all works associated with the Hub, all BS5306 compliant.*

6.4.5.4 *Subcontract*

The Main Contractor submitted a Subcontract on 10th July 2009 to the Subcontractor. Although the Subcontract was to be executed as a deed it remained unexecuted.

Particular details of the scope of works:

Sixth description from section 1of the Subcontract:

> *Scope of Sub-Contract Works required:*
>
> *Design, deliver, install, test and supply all necessary labour and materials to provide a fully operational sprinkler system to…* [reference to various blocks of the school building] *and all works associated with the Hub, all BS5306 compliant, and inclusive of training O&M manuals including all electrical works associated with putting the sprinkler system into full working order.*

No architectural or other drawings were issued to the Subcontractor with the tender enquiry or the Subcontract, only those from the Consulting Engineer (*Client*).

Following receipt of the Subcontract the Subcontractor commenced work on site dated 3rd August 2009 and was given access to the Extranet on 5th August 2009 for the purpose of obtaining subcontract construction drawings and other pertinent documents.

6.4.5.5 *Adjudicator's Determination - Scope of the Subcontractor's Work Obligations*

The Main Contractor (Response, paragraphs, 20, 21 and 22) argued that the Subcontractor's obligation was to provide a sprinkler scheme which was fit for its intended purpose in accordance with the scope of work described in the Subcontract (sixth description). However, the Subcontractor (Reply, paragraph 7) argued that one of the terms of the Subcontract limited its obligations to reasonable skill and care, which the Adjudicator accepted in his Decision (paragraph 20). The Main Contractor did not argue this point prior to the adjudication, but there was an indication that it did believe this that by its letter dated 12th May 2010 discussed above.

The tender drawings supplied with the enquiry documents were reissued with the Subcontract and simply renamed subcontract drawings with no alterations to the details. The Main Contractor argued further (Response, paragraph 57) that the subcontract drawings contained the following notes:

> *Do not scale from the drawing, if in doubt, request further information.*
>
> *This drawing shall be read in conjunction with the contract conditions, mechanical or electrical services specifications, the mechanical or electrical equipment schedules and the architect's drawings.*
>
> *Refer to the architect's drawings for details of all setting out information. No dimensions shall be measured from this drawing.*
>
> *Refer to the architect's reflected ceiling plans for the setting out of al soffit mounted service components .*
>
> *Refer to the architect's drawings for details of all building compartmentation. All services shall be fire sealed using approved penetration detail, fully in accordance with the compartment rating.*

The Main Contractor argued, in respect of the above, that:

> There appears to be a misconception by [the Subcontractor] that the drawings provided [with the enquiry documents] indicating a sprinkler system somehow constitutes a pre-designed scheme and that [the Subcontractor] have no further design obligation in this respect; this is incorrect as the primary obligation on [the Subcontractor] within their order is to design the scheme.

The Subcontractor disagreed and argued (Reply, paragraph 32) that as they were the only drawings provided, even though its obligations were greater than what was shown on them, the drawing information that came to light post Subcontract, as shown on the architects drawings, was not made available at tender stage.

The Adjudicator determined (Decision, paragraph 24) that the Subcontractor's obligation was far greater than that shown on the drawings supplied with the tender enquiry. He agreed with the Main Contractor (Decision, paragraph 25), and decided in his Decision (paragraph 9) that the scope of the Subcontractor's obligations under the Subcontract were defined by the following documents:

- Subcontract order
- Mechanical specification as (numbered subcontract document)
- The Subcontractor's tender offer
- Minutes of the pre-subcontract meeting

6.4.5.6 *Adjudicator's Determination – Variations 9, 11 and 12*

The term "variation" is defined under the Subcontract at clause 5.1 of Section 2:

> *Variations, additions or omissions shall not be made unless ordered by the Customer's* [meaning Main Contractor] *representative* [meaning Main Contractor's client] *in writing. The expression 'variation' shall have the same meaning assigned to it provided in the Main Contract…*[reference to daywork and valuation]

Under the main contract [JCT standard form of building contract 2005 edition], clause 5.1 defines a variation:

> *The term 'Variation' means:*
>
> > *the alteration or modification of the design, the quality of the quantity of the Sub-Contract Works including:*
> >
> > > *the addition, omission or substitution of any work*
> > >
> > > …[reference to materials and goods]

In brief, the Client in writing generates variations and the meaning of variation is determined by a clause contained in the main contract. The Adjudicator in his Decision (paragraph 9) considered it necessary for the subcontract documents to provide sufficient information to enable the Subcontractor to determine that fire protection is required in all the requisite locations of the building. This accorded to some extent with the Subcontractor's position that the information provided did not in fact provide sufficient detail of the true extent of the fire protection required. In this regard the Adjudicator (Decision, paragraph 11) stated:

> It would appear that [Subcontractor] would require either details which show that voids exist which will allow [Subcontractor] to determine that protection

> is required or at the very minimum enable it to query whether the circumstances are such that protection is required… [reference to information]

6.4.5.7 *Variation 9 – Sprinkler Void Protection*

The Subcontractor claimed for the design and installation of sprinkler protection to roof and ceiling voids in various locations in the school.

In respect of the Subcontract drawings (which were the same as the tender enquiry drawings) the Main Contractor (Response, paragraph 59e) argued that protection was shown in void areas on the Subcontract drawings. It said:

> *…drawing for the second floor provide indication of voids and draws the specialist designer's attention to this by showing a two head arrangement in high void locations…[reference to drawings]*

And argued further (Response, paragraph 89):

> [Subcontractor] should have considered all available information when producing the design and if it considered the information was lacking in any way it should have raised a Technical Query at the time, there is ample information on the subcontract drawings and in the specification to alert [Subcontractor] to the existence of voids with the likely need for protection.

The Subcontractor (Reply, paragraph 18) pointed out that void protection was included in its tender offer as a consequence of the drawings showing a two head arrangement in high void locations, but that was omitted post Subcontract by the Consultant Engineer's (*Client*) design changes.

The Adjudicator carried (Decision, paragraph 19) out his own investigation into the drawings to determine what information was available to the Subcontractor at tender stage. His findings revealed that three of the subcontract drawings (available as tender drawings) indicated the presence of voids in the locations where a claim had been made. Although the Adjudicator in his Decision (paragraph 23) accepted the Subcontractor's submission he determined that:

> The Sub-Contract Drawings provide sufficient information to alert [Subcontractor] to existence of voids to enable [Subcontractor] to determine that either protection was required to these areas or, if there was any doubt about the specific height of the void, seek clarification whilst tendering.

The Adjudicator determined that the Subcontractor's claim for variation 9 was not a variation under the Subcontract.

6.4.5.8 *Variation 11 – Sprinkler Bulk Head Protection*

The Subcontractor claimed for the design and installation of sprinkler protection to bulkheads in various locations in the school. It was the Subcontractor's position that the bulkheads increased in width from 750mm on the subcontract drawings to 850mm wide thus introducing the need for additional sprinklers below the ducts/bulkheads.

The Main Contractor repeated its submission made against Variation 11 (Response, paragraph 113), thus:

> [Subcontractor] should have considered all available information when producing the design and if it considered the information was lacking in any way it should have raised a Technical Query at the time, there is ample information on the subcontract drawings and in the specification to alert [Subcontractor] to the existence of bulkheads with the likely need for protection.

The Adjudicator (Decision, paragraphs 33 and 44) examined the subcontract drawings and agreed with the Subcontractor that they did not show or indicate bulkheads to be 850mm wide. He also examined (Decision, paragraph 38) the architect's drawings that were only made available to the Subcontractor post Subcontract and determined:

> In the absence of any contradictory evidence from [Main Contractor] I accept on balance of probabilities [Subcontractor's] contention that the ducts width of the above locations were required in the locations claimed and that these were amended to exceed 800mm. I therefore find that the increased width and depth of the ducts represent a change under Condition 5.1

The Subcontractor was therefore successful in its claim concerning Variation 11.

6.4.5.9 *Variation 12 - Sprinkler Hub Balconies Protection*

The Subcontractor claimed for the design and installation of sprinkler protection to the Hub balconies. It was the Subcontractor's position that the subcontract drawings for the balcony to the Hub area were designated an external space and thus not requiring sprinkler protection.

In support of its assertion, the Subcontractor made reference to a meeting between its Contract Manager (*Subcontractor*) and the Consulting Engineer (*Client*) on 26th January 2016 (Referral, paragraphs 84 & 85), in which it claimed the Consulting Engineer (*Client*) advised the Contract Manager (*Subcontractor*) that the specification for the works did not meet the required criteria to be classed as an external space. In defence of this assertion, the Main Contractor argued (Response, Appendix 7):

> Mr [Consulting Engineer's] advice is irrelevant, as it does not take into account [Subcontractor's] overriding obligation to design and install a compliant sprinkler system.

In further support of its assertion, the Subcontractor produced an email dated 31st March 2010 from the Electrical Project Manager (*Main Contractor*) to the Client stating:

> Our sprinkler [Subcontractor] have a meeting with the sprinkler governing body…[reference to date] to review the need for sprinkler systems within the [Hub] space. This was not in the original proposals we would appreciate your presence in the meeting to put emphasis on the fact that the [Hub] space was deemed as external and not requiring sprinklers

The Main Contractor (Response, paragraph 97) argued:

> Sprinkler protection to the Hub Balconies was something that was always expressly include in [subcontractor's] scope of works and for which [Subcontractor] has no entitlement to additional payment. The Hub is specifically named in the scope works as an area that [Subcontractor] was to allow for in providing the appropriate sprinkler protection

The Adjudicator (Decision, paragraph 70) agreed with the Main Contractor that the Hub area was part of the Subcontractor's scope of work. The Adjudicator stated (Decision, paragraph 73):

> [Subcontractor] refers to the relevant Sub-Contract Drawings…[reference to numbers], which are the sprinkler layout drawings. I accept these do not show a requirement for sprinkler protection. However, no reference is made on these drawings, which show the sprinkler layout to the Hub being classed as an external area.

And therefore, the Adjudicator determined (Decision, paragraph 74):

> I find therefore that the Hub was not designated an external area, and [Subcontractor's] obligations under the Sub Contract were to provide suitable sprinkler protection to the Hub area.

The Subcontractor was therefore not successful in its claim concerning Variation 12.

6.4.6 Practitioner's Reflection

The Subcontractor based its tender price primarily on the tender plans provided by the Main Contractor with the tender enquiry. The plans showed schematic layouts of the sprinkler protection required to the school based on the Consulting Engineer's (*Client*) apparent understanding of the required scope at the time. No sprinkler protection was shown to the Hub balconies. It is reasonable to make the statement that the reason for this was, as confirmed by the Electrical Project Manager (*Main*

Contractor) in an email dated 31st March 2010 to the Client in which he said, that sprinkler protection was not in the original proposals for the Hub area. Consequently, having received plans (post subcontract) during the installation phase of the project showing the requirement for additional sprinkler protection, the Subcontractor considered this constituted variation changes.

It is informative to note that the Subcontractor incorrectly placed reliance on tender plans (pre-subcontract documents) rather than the subcontract plans (contractual working drawings) that, unlike the tender plans, became contractually binding on the Parties. It became evidently clear to me that the Subcontractor considered them to have had some contractual force, perhaps because its tender offer became a subcontract document and mistakenly believed that the Consulting Engineer (*Client*) had defined the scope of the sprinkler protection, or perhaps greater reliance was placed on the tender drawings because they were the drawings upon which its price was based. Indeed, from my contemporaneous notes of a meeting with me in November 2010, the Commercial Director (*Subcontractor*) advised me that he [meaning the Subcontractor's project team as a whole] were not aware that the tender plans had become subcontract plans. Reliance was still placed on the tender plans. Although this was the wrong thing to do, as it transpired that the subcontract plans were identical to the tender plans. Consequently, the Subcontractor accepted the Subcontract based on plans that had not been checked to see if they were the same as the tender plans which the price was based on.

It would seem reasonable to postulate that the Subcontractor's understanding was raised and discussed in the pre-subcontract meeting, although there is no evidence of this in the meeting minutes. Additionally, there is no evidence that the Subcontractor sought to have the minutes corrected to include any such discussions. From my contemporaneous notes of a meeting with me in November 2010, the Commercial Director (*Subcontractor*) advised me that it was an oversight on his part not to have checked the minutes more carefully. It is conceivable that this oversight was due to the parties having developed a mutual trust during the pre-contract stage, so that the need to check the meeting minutes was not uppermost in the Commercial Director's (*Subcontractor*) mind, resulting in complacency. The Commercial Director (*Subcontractor*) and the Senior Project Manager (*Main Contractor*) were both at the

meeting. They both stated in their respective witness statements during the adjudication (Project Manager, paragraphs 5 and 6; Commercial Director, paragraphs 9, 10 and 11):

> We discussed amongst other things the basis of our Quotation and the fact that it was based on designing and providing sprinkler protection as specifically shown on the tender plans.

There is no evidence that the Main Contractor disputed the basis of the Subcontractor's tender offer or what was discussed at the meeting concerning the same. From an objective interpretation, one might conclude that the Main Contractor accepted the basis of the Subcontractor's tender without qualification, although there is no evidence of formal acceptance prior to the Subcontract. Perhaps there was a mutual misunderstanding about the scope of works that neither party was unaware of at the time; or perhaps the Parties mutually accepted the limitation without fully understanding the potential consequences or giving it much consideration.

In any case, it would seem that confusion emanated from unclear or obscure subcontract documents and a misunderstanding of the Subcontract terms concerning the scope of works obligation. For example, as the Subcontractors obligation was to design and install sprinkler protection to the school in accordance with statutory requirements, was it necessary to submit tender plans showing a schematic layout of the sprinkler protection, particularly if it had the potential to accidently make the Subcontractor believe (as it clearly did) that it defined the scope, when in fact the scope was much wider. This situation accords with Wallace (2004) where he postulates about building contracts generally lack clear thinking and are replete with obscure and unconsidered draftsmanship. This raises two important points. First, it highlights the importance of the Subcontract documents from a legal perspective; they became the focal point of enquiry into the dispute and its resolution (Mitchell, 2009) and held to be of greater hierarchical importance than the Parties informal relations (Collins, 1999). Secondly, a set of circumstances arose that accord with Mitchell's observation (2009), it pitted the reality of what the Subcontractor (and perhaps the Main Contractor) understood was required by the tender (or Subcontract) drawings against "…the fabricated legal construction of the contract" (Mitchell, 2009, p. 7).

Although, the Main Contractor argued successfully that the Subcontractor's obligations concerning the scope of sprinkler protection was far greater than shown on the tender drawings, it is not known whether the Main contractor held that view prior to the variations arising. On the other hand, the Main Contractor may have held that view and took advantage of the terms of the Subcontract after realising (or having taken legal advice) that the terms could work in its favour in the adjudication.

Unbeknown to the Subcontractor the Subcontract terms imposed a greater obligation and risk. In practice, as Cullen and Hickman (2002) observe concerning such situations this had a detrimental impact for the Subcontractor leaving it dissatisfied with the Subcontract and burdened with a costly dispute.

The Subcontractor's tender offer was a statement of a willingness to enter into a subcontract on stated terms. The Subcontractor placed complete reliance on its tender as constituting the scope of works obligation that eventually formed part of the subcontract. Subject to the Subcontract, the tender offer accepted (in principle at least) by the Main Contractor would have constituted the subcontract favouring the Subcontractor's position. The Subcontractor may have had an erroneous belief as to the circumstances existing when the subcontract was made. The Parties may have had significantly different perceptions concerning the contractual commitments or other contractual consequences as a result of the transaction or the Parties may have been in agreement until the need for additional sprinkler protection arose.

The Subcontract effectively changed that position by taking priority over the tender offer, increasing the Subcontractor's scope of works obligation. The Main Contractor in the adjudication argued this point. What remains unknown is whether the Main Contractor was aware of this when negotiating the subcontract. After all, on balance it seems reasonable to conclude that the Main Contractor knew the tender offer was based on a more restricted scope of works. This may mean that it knew but kept quiet about it, or that it had accepted the restricted scope but having taken advice from its lawyers realised that it could use the Subcontract to its advantage. This may have been evident concerning variation 12 – sprinkler protection to the Hub balconies. Even though it was shown from a contemporaneous email from the Electrical Project Manager (*Main Contractor*) dated 31st March 2010, that the Hub area was not

designed to have sprinkler protection, the Main Contractor (Response, paragraph 97) argued:

> Sprinkler protection to the Hub Balconies was something that was always expressly included in [Subcontractor's] scope of works and for which [Subcontractor] has no entitlement to additional payment. The Hub is specifically named in the scope works as an area that [Subcontractor] was to allow for in providing the appropriate sprinkler protection.

The Parties' agreement under the Subcontract fits the discrete classical contract. It was a one-off self-contained agreement for the design and installation of sprinklers of relatively short duration (Cheung et al, 2006). Brownsword (2000) has argued that Parties in such a contractual arrangement are more likely to exhibit self-interested contracting behaviour. By, for example, taking advantage of party ignorance (concerning the terms of a contract for instance) or exposure to risk. The Main Contractor took advantage of the terms of the Subcontract concerning the work scope and ultimately the Subcontractor's greater exposure to risk. The Main Contractor's behaviour supports Clegg's (1992) argument that "…no interpretation is ever innocent of interest" (Clegg, 1992, p. 134). This ultimately ended in a dispute that was resolved by adjudication, a point that Cullen & Hickman (2012) argued is a typical scenario.

The Adjudicator (Decision, paragraph 70) agreed with the Main Contractor that the Hub area was part of the Subcontractor's scope of work. The Adjudicator stated (Decision, paragraph 73):

> [Subcontractor] refers to the relevant Sub-Contract Drawings…[reference to numbers], which are the sprinkler layout drawings. I accept these do not show a requirement for sprinkler protection. However, no reference is made on these drawings, which show the sprinkler layout to the Hub being classed as an external area.

Although, the Subcontractor may not have been aware of this design criteria it relied on the tender plans, which did not show sprinkler protection.

6.4.6.1 *Post Subcontract and Adjudication*

Post Subcontract, and once the issue of additional sprinkler protection arose, the Main Contractor relied on the Subcontract stating that it clearly confirmed the Subcontractor's scope of works to provide a fully compliant operational sprinkler system. Although the Main Contractor did not specifically state this, its position

strongly implies that the Subcontractor agreed (unwittingly) to design and install fire protection to whatever the scope of work required satisfying that obligation.

The Subcontractor's actions do not accord with the findings of a study by Hughes and Maeda (2002) in which 98% of respondents, which included Main Contractors and Subcontractors, considered that it was important to understand their contractual obligations before commencing a construction project or agreeing a contract.

On the other hand, the Main Contractor was willing to enter into negotiations and requested the Subcontractor to provide substantiating documentation, specifically, it requested marked up plans showing the difference between the tender plans and the post subcontract plans. This seems to indicate that the Main Contractor, having stated its primary position was nevertheless willing to pursue the Subcontractor's variations claim with its Client. Although it is unknown what discussions took place between the Main Contractor and its Client, the Main Contractor indicated that if its Client had accepted the claim it would have been willing to accept the Subcontractor's claim too. Interestingly, the Main Contractor referred to tender plans, rather than subcontract plans.

It is instructive to note that if the Main Contractor was confident in its primary position why would it bother to pursue the claim with its Client. Perhaps this showed doubt in its position or maybe it considered it had nothing to lose because any costs it agreed to pay to the Subcontractor would be recovered from its Client. In the end, it is unknown whether the Main Contractor actually passed the Subcontractor's variations claim to its Client as promised, or if it did what, if any, the response was.

The Main Contractor's attitude implies what Mitchell (2009) would understand to represent both a selfish concern for the Subcontractor, whilst at the same time being concerned with its own self-interests. The idea that the Main Contractor is both selfish and social, in that it put the interests of the Subcontractor ahead of its own interests at the same time that it puts its own interests first (Campbell, 2001).

The dispute was not resolved by negotiation and the Subcontractor referred it to adjudication. The central issue concerned the Parties' understanding and interpretation of the Subcontractor's scope of work obligations for the entire sprinkler system; and whether the additional sprinkler installations designed and installed by

the Subcontractor, constituted variations under the subcontract or simply formed part of the originally agreed scope.

The tender enquiry documents were not made part of the Subcontract, but the Subcontractor's tender offer, (which was a subcontract document) was based on the tender enquiry. Although the Subcontractor accepted that it was responsible to: design, provide, install, test and commission a fully operational sprinkler system, it considered that the plans submitted with the tender enquiry limited the scope of the works to that shown on the plans.

The Parties' documents contain seven slightly different descriptions of the same scope of works. Under the Subcontract and the pre-subcontract meeting minutes, the description is modified and does not replicate either the tender invitation enquiry description or the tender offer descriptions. Further, the mechanical specification document expressed the scope of works differently. Such a situation may have resulted in misunderstanding and confusion. However, it would seem that the descriptions are essentially stating more or less the same thing that the Subcontractor's obligation was to design, provide, install, test and commission a fully operational sprinkler system.

6.4.6.2 *Summary*

Although the Subcontract sought to specify the key variables concerning the Parties' obligations, it could not specify how it would be read, interpreted and used by the (self- interested) Parties to the contractual relationship.

As Clegg (1992) has argued, contract documents can never account fully for the way parties interpret them. They are not "…matter-of-factual" (Clegg, 1992, p. 133). Of course, how they are interpreted will depend on the parties' knowledge (Clegg, 1992). Although from an objective perspective there was a common agreement that promise, payment and acceptance were present, the Parties seemingly had different interpretations concerning the Subcontract (Rousseau & Parks, 1993). This resulted in the Subcontractor's understanding about its obligations being at odds with that of the Main Contractor. Perhaps Suchman (2003) had such a scenario in mind when he said that business people view contracts as simply symbolic artifacts in the course of commerce but rarely have a comprehensive understanding of the evidentiary implications.

The subcontract, in theory, was arrived at as a result of the tendering procedure, which it would be reasonable to assert was considered by the Parties to be a legally and commercially rational agreement between them. It would seem that this view (by the Subcontractor at least) was based on an assumption or understanding that the scope of work had been finally decided and was specified in the tender enquiry documents, specifically the tender plans; so that the Subcontractor could anticipate reasonably accurately at that time what its obligations and costs would be. However, it was not so, and it was not surprising, therefore the Subcontractor's tender offer and the Main Contractor's acceptance (in principle at least until the subcontract was legally formed) was perhaps to some extent an act of faith.

In a way, the Subcontract functioned as a powerful artifact on site, waiting to be put into practice, to be made meaningful, by the Parties who held competing interpretations. Thus, in such a situation the potential for disputes was ever present. Whether the Subcontract was physically utilised by the Parties to regulate its relationship with adherence to the Subcontractual procedures is unknown. But it was used by the Main Contractor to protect and enforce its interests (Hughes & Maeda, 2002).

A framework for categorising the potential root causes of the disputes (relating to each of the variations 9, 11 and 12) concerning practice-based inquiry 1 is presented (Table 9).

Table 9: Framework for Categorising the Root Cause(s) of the Dispute

Practice-Based Inquiry 1

Variation 9			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
1	The Subcontractor misunderstood its obligations by incorrectly believing the tender drawings constituted the scope of work.	**(1)** ***Failure to understand contractual obligations*** (Harris & Arcadis, 2016, 2015, 2014, 2013) **(2)** ***Contract documents*** (Akintan & Morledge, 2013; Love et al, 2011; Love, Davis & Ellis, 2010; Kumaraswamy,1997; Cheung & Yiu, 2006; Sykes, 1996; Rhys-Jones, 1994; Spittler & Jentzen, 1992; Totterdill, 1991) **(3)** ***Behaviour/Opportunism*** (Malleson, 2012; Love, Davis & Ellis, 2010; Cheung & Yiu, 2006; Mitropoulas & Howell, 2001) **(4)** ***Uncertainty/misunderstanding*** (Love, Davis & Ellis, 2010; Mitropoulas & Howell, 2001; Sykes, 1996; Bristow & Vasilopoulas, 1995) **(5)** ***Adversarial behaviour*** (Spittler & Jentzen, 1992) **(6)** ***Contract interpretation*** (Malleson, 2018, 2015, 2013, 2012; Love, Davis & Ellis, 2010; Ohrn & Rogers, 2008; Murdoch & Hughes, 2008; Blake Dawson & Waldron, 2008; Heath, Hills & Berry, 1994; Hughes & Greenwood, 1996)	**<u>Summary</u>** The evidence indicates that the root cause of the dispute was the schematic layout of the sprinkler protection shown on the tender drawings that led to a mutual misunderstanding by the Parties, believing that the tender drawings constituted the full extent if sprinkler protection. In addition, and notwithstanding, the Subcontractor ought reasonably to have investigated more thoroughly the tender drawings, which had it done so would have revealed the need for additional sprinkler protection pre-subcontract. • ***Mutual misunderstanding of contractual obligations;*** • ***Uncertainty in subcontract documents***

Variation 9 Cont…			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
2	The Main Contractor was aware before entering into subcontract of the Subcontractor's understanding regarding the scope of work referred to in item 1 above but did not raise this with the Subcontractor. This might have been because the Main Contractor agreed with the Subcontractor's understanding, resulting in a mutual misunderstanding .	As variation (9.1)	As variation (9.1)
3	The tender drawings were prepared by the Consulting Engineer (*Client*) which showed a schematic layout of the sprinkler protection. Consequently, this may have misled both Parties into believing what was shown constituted the scope of work.		
4	The Subcontractor failed to investigate and identify the need for sprinkler protection to voids (unlike the Adjudicator who carried out his own investigation) shown on the tender drawings. This was either due to the Subcontractor being misled as discussed in item 3 above, or carelessness on its part.		
5	Once the need for additional sprinkler protection was known the Main Contractor relied on the express terms of the subcontract to argue that the Subcontractor's obligation regarding the scope of work were much greater than what was shown on the tender drawings.	As variation (9.1)	As variation (9.1)

Variation 11			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
1	The tender drawings showed ducts/bulkheads at a size that didn't need sprinkler protection upon which the Subcontractor priced its tender. Post subcontract, the plans changed showing ducts/bulkheads to have increased in size, necessitating the need to sprinkler protect them.	**(1) V*ariations*** (Malleson, 2015, 2012; Harris & Arcadis, 2014, 2013, 2012; Love et al, 2011; Love, Davis & Ellis, 2010; Blake Dawson Waldron, 2006; Killian 2003; Brooker, 2002; Kumaraswamy, 1997; Heath, Hills & Berry, 1994; Semple, Hartman & Jergeas; Hewitt, 1991) **(2) *Self-interested partie*s** (Xiao-Hua et al, 2013; Harris & Arcadis, 2013, 2012) **(3) *Lack of collaboration*** (Akintan & Morledge, 2013) **(4) *Adversarial behaviour*** (Spittler & Jentzen, 1992)	**<u>Summary</u>** The evidence indicates that the tender drawings showing the ducts/bulkheads (which subsequently became subcontract drawings) changed post subcontract constituting a valid change to the scope of work and thus entitling the Subcontractor to additional payment. The Main Contractor, instead of acknowledging this, decided to raise what was an unviable argument to avoid having to make additional payment. Consequently, the evidence indicates that the root cause of the dispute was the Main Contractor's adversarial and self-interested behaviour. • ***Self-interest;*** • ***Adversarial behaviour***
2	The Main Contractor had no viable argument for the change not constituting a variation, but nevertheless exhibited self-interested behaviour by making an implausible argument.		

Variation 12			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
1	The Subcontractor misunderstood its obligations by incorrectly believing that the tender drawings constituted the whole scope of work, which did not show sprinkler protection to the Hub balconies	**(1)** ***Failure to understand contractual obligations*** (Harris & Arcadis, 2016, 2015, 2014, 2013) **(2)** ***Contract documents*** (Akintan & Morledge, 2013; Love et al, 2011; Love, Davis & Ellis, 2010; Kumaraswamy,1997; Cheung & Yiu, 2006; Sykes, 1996; Rhys-Jones, 1994; Spittler & Jentzen, 1992; Totterdill, 1991) **(3)** ***Behaviour/Opportunism*** (Malleson, 2012; Love, Davis & Ellis, 2010; Cheung & Yiu, 2006; Mitropoulas & Howell, 2001) **(4)** ***Uncertainty/misunderstanding*** (Love, Davis & Ellis, 2010; Mitropoulas & Howell, 2001; Sykes, 1996; Bristow & Vasilopoulas, 1995) **(5)** ***Lack of collaboration*** (Akintan & Morledge, 2013) **(6)** ***Adversarial behaviour*** (Spittler & Jentzen, 1992) **(7)** ***Contract interpretation*** (Malleson, 2018, 2015, 2013, 2012; Love, Davis & Ellis, 2010; Ohrn & Rogers, 2008; Murdoch & Hughes, 2008; Blake Dawson & Waldron, 2008; Heath, Hills & Berry, 1994; Hughes & Greenwood, 1996)	**<u>Summary</u>** The evidence indicates that the root cause of the dispute was the schematic layout of the sprinkler protection shown on the tender drawings that led to a mutual misunderstanding by the Parties, believing that the drawings constituted the full extent of sprinkler protection. In addition, and notwithstanding, the Subcontractor out reasonably to have reviewed the scope of work description and raised with the Main Contractor the fact that it included the Hub area. Note: judging by the Electrical Project Manager's (*Main Contractor*) email, it seems fairly certain that the Hub area was originally intended to be an external area not requiring sprinkler protection. This interpretation supports the fact that the schematic layouts were indeed as intended. Unfortunately for the Subcontractor, the description of the scope of work included the Hub area which took priority over the drawings. • ***Mutual misunderstanding of contractual obligations;*** • ***Uncertainty in subcontract documents***

Variation 12 Cont…			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
2	The Main Contractor was aware before entering into Subcontract of the Subcontractor's understanding requiring the scope of work referred to in item 1 above but did not raise this with the Subcontractor. This might have been because the Main Contractor agreed with the Subcontractor's understanding, resulting in a mutual misunderstanding	As Variation (12.1)	As Variation (12.1)
3	The tender drawings were prepared by the Consulting Engineer (*Client*) which showed a schematic layout of the sprinkler protection. Consequently, this may have misled both the Subcontractor and the Main Contractor into believing what was shown constituted the scope of work.		
4	The description of the scope of work included in the subcontract expressed that it included sprinkler protection to the Hub balconies. There was no statement that the Hub area was designated an external area and thus not requiring sprinkler protection.		
5	The Electrical Project Manager (*Main Contractor*) acknowledged in an email to the Client that the Hub area was in fact designated an external area and thus not requiring sprinkler protection.	As Variation (12.1)	As Variation (12.1)

6.5 Practice-Based Inquiry - 2

Practice-Based Inquiry – 2 concerns a dispute between a Main Contractor and a Subcontractor relating to a variation claim by the Subcontractor, referred to arbitration for resolution.

6.5.1 The Parties

The Subcontractor is a company that designs, supplies, installs and services suppression fire protection systems in the UK construction industry. It has over 40 years experience of installing fire protection in new and existing buildings. It employs around 70 people with a turnover of around £12m.

The Main Contractor was a company that designed, installed and maintained mechanical and electrical installations in the UK construction industry for 28 years before going into liquidation. It employed around 135 people with a turnover around £66m.

The Main Contractor and the Subcontractor are hereinafter collectively referred to as the Parties. In addition to the Parties, reference is made to other third party and individuals identified as follows:

- Regional Manager (*Main Contractor*) - responsible on behalf of the Main Contractor for overseeing the overall control in delivery of mechanical and electrical components of the scheme including involvement on the design, commercial viability, selections and procurement and other issues relating to the scheme (witness statement, p. 1).
- Contracts Director (*Main Contractor*) – responsible on behalf of the Main Contractor for tender negotiations, contract agreement, commercial management and managing a team of quantity surveyors and a sub-contract buyer (witness statement, p. 1).
- Senior Quantity Surveyor (*Main Contractor*) - responsible on behalf of the Subcontractor for the day-to-day commercial aspects of the sprinkler installation (witness statement, p. 1).
- Design Engineer (*Main Contractor*) – responsible on behalf of the Main Contractors for mechanical building services design (witness statement, p. 1).
- Counsel (*Subcontractor*) – responsible on behalf of the Subcontractor for expert legal advice and representing the Subcontractor in the arbitration.
- Commercial Director (*Subcontractor*) - responsible on behalf of the Subcontractor for tender enquiries, compilation of estimates, preparation of

quotations/proposal documents, negotiating contracts with clients and in-house contractual advice to project engineers (witness statement, p. 1).

- Architect (*Client*) – responsible on behalf of the Client for the overall design of the school including producing detailed designs

  NB: This description is based on my own understanding of the Architect's duties as there was no other information or witness statement available. What I do know pertinent to this dispute is that architectural designs were produced which were used by the Main Contractor for the tender enquiry issued to the Subcontractor.

- Building Services Manager (*Client*) - responsible on behalf of the Client for developing the scope of work for the project particular to mechanical and electrical systems, preparing tender packages of project scope requirements information for mechanical and electrical, developing related cost plans, liaising with the design team (Architect, engineers etc) and assisting the commercial team (witness statement, p. 1).

- Client – the school (end user) under a main contract with the Main Contractor for the provision of mechanical and electrical installations including sprinkler protection in the school.

- Arbitrator – An independent neutral third person officially appointed by the Chartered Institute of Arbitrators, an arbitrator nominating body, to decide the dispute between the Parties.

6.5.2 The Practitioner's Involvement

The Subcontractor made a claim for additional work as a variation due to an alleged change in the design of the scope of sprinkler works. The Main Contractor disagreed and consequently a dispute arose between the Parties concerning the validity of the variation. The Parties attempted to resolve the dispute by negotiation but to no avail, resulting in the Subcontractor referring the dispute to arbitration for resolution by an independent Arbitrator.

I was appointed by the Subcontractor in March 2010 to advise it concerning the dispute and subsequently to prepare the Subcontractor's case for referral to arbitration and to assist Counsel (*Subcontractor*) during the arbitration proceedings. Arbitration is a non-judicial process where either party to a contract may have a dispute decided by an independent third-party arbitrator, who makes an award that is final and binding. The arbitrator makes an award based on either a document only basis or following hearings. For a dispute to be referred to arbitration either both

parties will agree for the dispute to be referred to arbitration, or there will be an arbitration clause in the contract. In this instance there was an arbitration clause in the subcontract order (**Subcontract**).

6.5.3 Background to the Dispute

In early April 2008, the Main Contractor invited the Subcontractor to tender for the design and installation of a sprinkler system and other works as part of four new schools. This practice-based inquiry concerns one of those schools. Tender enquiry documents in the form of drawings and a requirement that the scope of works be in accordance with BS ENH 12485 and TB 230 were sent to the Subcontractor for the purpose of providing a tender price. At the beginning of October 2008, the Subcontractor provided a tender price.

In mid-October 2008, the Parties held a meeting to discuss the Subcontractor's tender. Shortly after the meeting the Subcontractor wrote to the Main Contractor setting out its understanding of the discussions held. At the end of October 2008, the Main Contractor instructed the Subcontractor to commence design work, which it did in mid to late November 2008.

During the design process the Subcontractor was given access to a website known as ICOSNET in order to access drawings and other relevant information. On an unknown date between November and December 2008 the Subcontractor observed that there were revised drawings that showed voids in excess of 800mm deep. This meant that additional fire sprinkler protection was required to various parts of the building.

Consequently, in early December 2008 the Subcontractor advised the Main Contractor of the situation and requested whether the suspended ceilings could be raised or whether the Client would give a dispensation to relax the BS EN 12845 design standard; otherwise additional costs would be incurred.

In early December 2008, according to the Subcontractor, the Main Contractor advised it that it had an agreement with the Architect (*Client*) that the suspended ceilings could be raised, so that additional sprinkler protection was not required. On this understanding the Subcontractor continued the design and in mid-March 2009 had completed it and submitted it to the Main contractor for approval. No comments were received from the Main Contractor concerning the design.

At the end of March 2009, the Main Contractor sent a Subcontract that the Subcontractor accepted. At the end of April 2009, the Subcontractor issued to the Main Contractor construction issue drawings ready to commence installation work on site. The Main Contractor raised no comments concerning the design. At the beginning of May 2009, the Subcontractor commenced work on site.

At the end of August 2009, having completed about 80% of the whole installation, the Subcontractor received a copy of a letter from the Client's insurer stating that the fire protection system failed to comply with BS EN 12845 and that sprinkler protection was required to voids over 800mm. Unbeknown to the Subcontractor it transpired that the suspended ceilings were not raised to reduce the void depth to under 800mm. Furthermore, additional suspended ceiling heights had changed increasing the voids to 800mm due to onsite construction methods. This increased the requirement for further sprinkler protection.

Communications passed between the Parties during August, September and the early part of October 2009, finally resulting in conformation from the Subcontractor that it would commence additional void protection to be valued as a variation to the Subcontract. In mid-October 2009 the Subcontractor commenced installation of the additional void protection and completed the same by the beginning of November 2009.

Having completed the works the Subcontractor issued a claim for payment, which the Main Contractor refused, arguing that the Subcontractor was required to install a sprinkler protection system in accordance with BS EN 12845.

6.5.4 Chronology of Events Pre-Arbitration

6.5.4.1 *Invitation to Tender*

On 11th April 2008 the Main Contractor sent tender enquiry documents to the Subcontractor inviting it to tender for the design and installation of sprinklers in four individual schools. The tender enquiry consisted of drawings of elevations, sections and plans. No other documents were provided.

The Design Engineer (*Main Contractor*) provided the documents by email dated 11th April 2008. He Said:

> We have won 4 No. schools in [name of city] for [Client]. I will email you the drawings for all schools. Can you provide a fixed cost for the design, installation, testing and commissioning of sprinkler installation.

6.5.4.2 *Tender Offer*

The Subcontractor submitted its tender offer on 1st October 2008. Particular details given concerning the scope of works are as follows:

> *Our proposal is to design, supply, install and commission the equipment as outlined in our quotation and specification.*
>
> *As far as we have determined from the enquiry documentation, we have included for the following scope of works. Any additional requirements that become evident during the design process will be deemed a variation to contract, which will require clear unequivocal instructions, with costs agreed, prior to undertaking the works.*
>
> *The design would be in accordance with BS EN 12845 and LPC to meet the fire insurers requirements.*
>
> *Sprinkler protection to the ground floor will consist of ceiling level protection. With regards to the extent of void protection, we have included for void level protection above bulkheads. All other areas at ground floor level appear to have voids less than 800mm deep and therefore do not require void level protection.*
>
> *Our quotation is based on the information detailed with your invitation to tender. Where void protection has been omitted due to void depths being less than 800mm deep, we have assumed that the void construction is non-combustible and has no combustible product within them.*
>
> *Your attention is drawn to our Standard Conditions of Trading, which re enclosed for your information* [Note: I was not provided with a copy].

6.5.4.3 *Pre-Subcontract Meeting*

Subsequently, the Regional Manager (*Main Contractor*) and Commercial Director (*Subcontractor*) held a meeting on 16th October 2008 to discuss particular requirements of the project. No meeting minutes were taken, but the Commercial Director (*Subcontractor*) wrote to the Regional Manager (*Main Contractor*). He said:

> Further to our meeting we discussed the content of our quotation for the above schools, we would set out below our revised offer. The following summary includes the void protection element, however we have identified the void value in brackets, should this be omitted either initially or at tender stage.

6.5.4.4 *Letter of Intent*

By email dated 24th October 2008 the Contracts Director (*Main Contractor*) instructed the Subcontractor to proceed with the design element only. He said:

> Further to your discussions with our [Regional Director], regarding the design works on the above project, we would conform that you are being considered as the preferred subcontractor for your relevant works for [school]. We require yourselves to develop your design solution in liaison with ourselves.

The Commercial Director (*Subcontractor*) acknowledged the instruction by email the same day. He said:

> We thank you for your instruction and have pleasure in acknowledging same: To carry out the design element of the works described within our Quotation dated 1st October 2008, letter dated 16th October 2008 and email dated 21st October 2008.

6.5.4.5 *Pre-Subcontract Design*

In late November and earlier December 2008, the Subcontractor noticed from further Architect's drawings being provided that there were numerous voids, which exceeded 800mm in depth, and would therefore require sprinkler protection.

By email dated 2nd December 2008, the Commercial Director (*Subcontractor*) notified the Main Contractor that it had discovered voids in the roof space that would require sprinkler protection. The email is headed with the name of one of the other schools, however it also states that the same problem had occurred in relation to the school concerning the arbitration.

By email dated 5th December 2008, the Main Contractor advised the Subcontractor that it had an agreement with the Architect (*Client*) that the ceilings could be raised in order to reduce the void to below 800mm deep. Consequently, the Subcontractor continued to produce the design and submitted it to the Main Contractor on 12th March 2009 for approval. The Main Contractor did not raise any adverse comments concerning the design.

6.5.4.6 *Subcontract*

The Main Contractor submitted the Subcontract on 24th March 2009 to the Subcontractor, which the Subcontractor signed and returned on 25th March 2009.

Particular details of the scope of works:

Cover Page of the Subcontract:

> *Description of Sub-Contract Works:*
>
> *To provide all labour, materials, PPE, plant and access to design, supply, install, test and commission the complete automatic sprinkler system. All in accordance with BS EN 12845*
>
> *Basis of Sub-Contract Price:*
>
> *Main Contractor's tender enquiry drawings, standard terms and conditions, architect's specifications and drawings and the meeting with* [Regional Manager] [dated 16th October 2008]
>
> [Main Contractor] *Enquiry:*
>
> [Left blank]
>
> *Correspondence:*
>
> *As per meeting* [Regional Manager]
>
> *Details of Sub-Contract:*
>
> *Agreed Price: £*[XYZ]
>
> *Conditions of Sub-Contract:*
>
> [Main Contractor] *Standard Supplementary*
>
> *Clause 1* [Conditions, page 1]:
>
> *These conditions are to the exclusion of all other terms and conditions unless otherwise specifically agreed in writing by the Contractor* [Main Contractor]

The price entered in the Subcontract was the same as the tender price from the Subcontractor, although the Subcontractor's design drawings were not expressly incorporated in the Subcontract.

Thereafter, the Subcontractor converted the design drawings submitted for approval on 12th March 2008 into construction issue drawings and submitted them to the Main Contractor on 22nd April 2009. The Subcontractor commenced work on site dated 25th May 2009.

6.5.4.7 *Additional Sprinkler Protection*

By letter from the Client's insurer dated 24th August 2009, the Subcontractor was first notified that following a site inspection it was apparent that sprinkler protection works had not been carried out to voids in excess of 800mm and therefore did not comply with BS EN 12845.

In response to the insurer's letter, the Commercial Director (*Subcontractor*) wrote to the Main Contractor on 26th August 2009. He said:

> Our designs comply with the relevant standards with the exception of non-protection of roof voids. As directed by the design team, void protection has been omitted from the sprinkler designs for all voids up to 2m in depth. Please advise as a matter of urgency as to whether roof void protection will be required as the inclusion of such protection will not only have an implication on programme but will also constitute a considerable variation to our scope of works.

At the request of the Regional Manager (*Main Contractor*) the Commercial Director (*Subcontractor*) advised him by email dated 7th September 2009 of the additional requirement concerning the installation of sprinkler protection to voids in excess of 800mm. The Commercial Director (*Subcontractor*) also said:

> We would wish to reiterate that the original decision to omit void protection in these voids was as directed by the design team and not [Subcontractor's] recommendations. We will require clear unequivocal instructions to proceed as soon as possible based on the above costs.

By letter dated 10th September 2009 the Senior Quantity Surveyor (*Main Contractor*) responded to the Commercial Director (*Subcontractor*). He said:

> The fire sprinkler systems installation is non-compliant with BS EN 12845. The sub-contract order agreement clearly requires [Subcontractor] to design, supply, install test and commission the complete sprinkler system. Any cost incurred by any other parties as a consequence of this Non-Compliant installation will be deducted from [Subcontractor] accounts.

By letter dated 11th September 2009 the Commercial Director (*Subcontractor*) responded to the Senior Quantity Surveyor (*Main Contractor*). He said:

> On 2nd December 2008 we notified [Main Contractor] of a potential problem concerning ceiling voids. Following which we received correspondence from [Main Contractor] that the ceilings would be raised.

By letter dated 23rd September 2009 the Senior Quantity Surveyor (*Main Contractor*) responded to the Commercial Director (*Subcontractor*). He said:

> Further to issue of Non-compliance notifications issued to [Subcontractor] dated 10th September 2009, [Main contractor] are issuing to [Subcontractor] a written notice under clause 9 item (c) within Conditions of Subcontract Order to comply with requirements to suit a compliant installation. We would also confirm that all resultant costs/delays, will be deducted from your account or recovered from yourselves as a debt.

By letter dated 24th September 2009, the Commercial Director (*Subcontractor*) responded to the Senior Quantity Surveyor (*Main Contractor*). He said:

> You have not issued any written instructions pursuant to clause 9 (a) of the contract in connection with the alleged non-conformity of the works, although inexplicably you now state that we are not complying with your written instructions and issue notice under clause 9 (c) of the contract. We will of course comply with our obligations pursuant to clause 9 (a) of the contract and await your written instructions. We will deem any written instruction as an alteration or modification of the design of the sprinkler system and thus a variation to the original scope of the contract works, to be valued in accordance with clause 9 (d) of the contract.

Clause 9 (a) permits the Main Contractor to issue written instructions, which the Subcontractor is obliged to comply with. Such instructions include a variation or modification of the design or quantity of the works. Clause 9 (c) permits the Main Contractor to employ others to carry out instructions if the Subcontractor fails to comply within 7 days of an instruction. Clause 9 (d) concerns the valuation of variations.

6.5.4.8 *The Parties' Meeting*

The Commercial Director (*Subcontractor*) was requested to attend an emergency meeting on 24th September 2009 with the Contracts Director (*Main Contractor*) and the Building Services Manager (*Client*) to discuss the issue of sprinkler protection to voids. No written minutes of the meeting were taken. The following is my transcription of what the Commercial Director (*Subcontractor*) said to me during our meeting in April 2010:

> The Building Services Manager (*Client*) advised us that the Client's insurer was not prepared to offer any compromise on their position. Consequently, sprinkler void protection was required.
> I suggested that a ceiling barrier could be installed within the void to create a new roof void less than 800mm deep to overcome the requirement to install sprinklers. This was rejected because it was deemed too expensive.
> At that point, the Contracts Director (*Main Contractor*) stated to me that it was our responsibility to comply with the Subcontract and provide a compliant system. I responded by stating that he was fully aware of the circumstances that led to this situation, which was not our fault.
> The Building Services Manager (*Client*) then asked what the likely cost would be to install sprinklers. The Contracts Director (*Main Contractor*) stated about £100K including our costs.
> The Building Services Manager (*Client*) stated that perhaps we could all chip in and contribute to the costs. I said that I considered this work a variation to the Subcontract, however I was prepared to record all our costs (materials and labour) and not seek to recover any profit.

> The Building Services Manager (*Client*) accepted this approach, but the Contracts Director (*Main Contractor*) asked if we were prepared to make a further contribution. I responded that we would be prepared to accept 70% of our costs, on the basis that the Contracts Director (*Main Contractor*) would offer us another Subcontract. This was accepted, and the meeting closed.
> Outside the meeting room the Contracts Director (*Main Contractor*) expressed his desire not to fall out with us and to continue our good business relationship. I agreed with him but said that I felt we had been misled concerning the problem and would defend our position vigorously.
> The Contracts Director (*Main Contractor*) then said that he did not trust the Building Services Manager (*Client*) and asked me to keep two sets of costs, one being more inflated than the other, just so they have something up their sleeve for final negotiations [Explanatory note: The Commercial Director (*Subcontractor*) was being asked to calculate the cost of the variation in two separate amounts. One being a true reflection of the likely cost, and another cost being much higher in order that it may be used by the Contracts Manager (*Main Contractor*) in negotiation with the Building Services Manager (*Client*). In the end, this situation did not arise].
> I also raised a separate matter concerning overdue payments of about £180K, which the Main Contractor was withholding due to the sprinkler void issue. The Contracts Director (*Main Contractor*) advised me that we would receive payment tomorrow.
> I received a telephone call on 25th September 2009 from the Contracts Director (*Main Contractor*) who insisted that we carry out the design and installation of the sprinkler void protection or we would not receive payment of the £180K. I felt I had no option but to comply. I therefore sent a letter the same day stating that we will carry out the work but that it would be valued as a variation under the Subcontract.
> On 19th October 2009 we commenced the additional sprinkler void protection having already completed about 80% of the whole system. The Subcontract works were completed on 14th December 2009.

In relation to the Commercial Director's (*Subcontractor*) and my contemporaneous notes of the meeting, it is instructive to understand what the Contracts Director (*Main Contractor*) and Building Services Manager (*Client*) said about their understanding of the meeting. This was revealed for the first time in their respective witness statements as part of the arbitration hearing.

The Contracts Director (*Main Contractor*) said:

> [Client] did sympathise with [Main Contractor and Subcontractor] and a compromise was reached that [Client] would not be looking to pursue any claims in relation to prolongation/builders work costs, however we must have agreement from [Subcontractor] that they will undertake the rectification works. Originally [Subcontractor] intimated to [Main Contractor] that costs could be in excess of £100K for all three primaries [schools], when [Subcontractor] left the meeting it was acknowledged by them that their costs

> should only be £30-40K. At this point, it was clear that the costs were not as significant and with the trade-off offered by [Client] not to pursue their abortive costs, an agreement was reached that this matter would be of no cost to [Main Contractor]

The Building Services Manager (*Client*) said:

> It was noted that there would not be any associated variation order issued by the Client and therefore there was not recompense under the contract [meaning the Main Contract] to obtain additional monies for [Main Contractor and Subcontractor] for carrying out the associated works. The parties [meaning Client/Main Contractor/Subcontractor] then agreed that each would cover its own respective costs associated with the works, i.e. [Client] would cover any necessary builders work, [Main Contractor] would cover any necessary m&e services alteration works and [Subcontractor] would carry out the required fire sprinkler works

6.5.4.9 *Post Parties' Meeting*

By interim application for payment number 8A dated 28th January 2010, the Subcontractor applied for payment of the additional sprinkler void protection. By a payment withholding notice dated 29th January 2010 the Main Contractor refused payment and stated: 'No entitlement, work content is to rectify non-compliant installation'. Thereafter, the Subcontractor attempted to obtain payment from the Main Contractor without success.

6.5.4.10 *Practitioner's Appointment*

I was appointed by the Subcontractor in early April 2010 to advise it concerning its case if the matter was to proceed to adjudication or arbitration. I provided my advice on 3rd May 2010 and advised the Subcontractor that the merits and prospects of succeeding were strong. In discussion with the Subcontractor, it was agreed that the dispute would be referred to arbitration rather than adjudication because if successful the Subcontractor would receive the majority of its costs from the Main Contractor, and due to the complexity of the issues, unlike adjudication, arbitration affords an opportunity to explore the facts and evidence in more depth and it is final and binding. Therefore, by an agreement dated 27th May 2010 I was instructed by the Subcontractor to represent it in arbitration. In addition to myself it was agreed to appoint Counsel (*Subcontractor*) to act on its behalf during the arbitration.

By letter dated 9th June 2010 I issued an arbitration notice to the Main Contractor to start the arbitration process.

6.5.5 The Arbitration

In conjunction with Counsel (*Subcontractor*), I worked on preparing the Subcontractor's statement of case. Briefly, this involved preparing an initial written submission setting out the Subcontractor's statement of case with all the information that we wanted the Arbitrator to consider. This included drafting witness statements on behalf of the Subcontractor i.e. it explained the nature of the dispute and how it arose, it detailed the facts relied upon supported by documentary evidence, it provided details of the Subcontractor and the contractual remedies which were sought and listed the orders that we required the Arbitrator to make. The hearing of the issues in the Subcontractor's claim took place on 5th – 7th September 2011 before the Arbitrator. The hearing dealt only with the questions of whether the Subcontractor was entitled to recovery on its claim, and if so the quantum of the sum to which the Subcontractor was entitled.

What follows is my review of the arbitration based on the Parties' written submissions and the Arbitrator's reasons for making his Award. The Arbitration involved certain aspects, which are irrelevant to this research study. For example, there were submissions and a hearing concerning the financial effect of the decision in the Subcontractor's claim and the allocation of costs in principle. It was therefore unnecessary to introduce this aspect of the Arbitration. The analysis is limited only to aspects concerning the aim of the research study.

During the Arbitration process the Parties made various submissions. Reference is made to those submissions identified as follows:

- Statement of Claim – The Subcontractor's detail of its case and supporting evidence.
- Statement of Defence – The Main Contractor's detail of its case in defence of the Statement of Claim supporting evidence.
- Award – The Arbitrator's award based on the Parties' written submissions and/or oral evidence during the hearing.

6.5.5.1 *The Subcontractor's Statement of Case*

The dispute concerned the Subcontractor's averment that (Statement of Case, pp. 2,3):

- *The Main Contractor was in breach of Subcontract for failing to (1) issue a variation order for the additional void sprinkler protection to areas shown on revised drawings and to areas of the building that arose as a result of changes made during construction on site; (2) value the variation in accordance with the Subcontract; and (3) make payment.*
- *There was a collateral contract, concluded prior to the Subcontract order, in October 2008, which limited and defined the extent of void protection interpreted from the tender enquiry drawings and subsequent design produced by the Subcontractor prior to the Subcontract order. Hence because the Subcontract as concluded required the Subcontractor to carry out more void protection than agreed by the collateral contract, the Subcontractor was entitled to recover by way of a variation additional sums, on the basis that had the terms of the collateral contract been complied with the scope of the works under the Subcontract order would have been more limited than was actually the case.*
- *Alternatively, the collateral contract required the Main Contractor to co-operate with the Subcontractor on the development of the design of the Subcontract works and in particular to respond promptly to technical queries. The Subcontractor raised the issue concerning the extent of void protection required with the Main Contractor, but the Main Contractor did not provide the necessary information. Therefore, the Subcontractor was left with no other option but to proceed with the design on the basis of the tender drawings.*

6.5.5.2 *The Main Contractor's Statement of Defence*

The Main Contractor contended that (Statement of Defence, pp.4&5):

- *The terms of the Subcontract conferred no right to extra payment for the additional void protection works. Rather, the contract required all the works to comply with BS EN 12845 and LPC to meet the fire insurers requirements, which had the effect of imposing on the Subcontractor a requirement to provide fire protection to all voids over 800mm in depth.*
- *There was no collateral contract, but if there was one it contained not terms defining the extent of assumed void protection or required the Main Contractor's co-operation.*

6.5.5.3 *The Arbitrator's Award*

The Arbitrator stated that it was acknowledged by the Parties that the tender enquiry drawings provided to the Subcontractor for pricing its tender included sections and plans from which it was possible to identify those voids more than 800mm deep (Award, p.10). He also stated that it was not in dispute that BS EN 12845 and TB 230 required voids more than 800mm in depth to be sprinkler protected.

The Arbitrator said in relation to the meeting between the Commercial Director (*Subcontractor*) and the Regional Manager (*Main Contractor*) [Award, p.13]:

> [Commercial Director's] evidence, which I accept was to the effect that at this meeting the quotations were discussed in detail with reference to the drawings [Enquiry drawings] then available which had been identified in the quotation. The precise level of sprinkler protection included in the quotation was run through, including identifying the areas where void protection was to be provided.

The Commercial Director (*Subcontractor*) said in his witness statement concerning this particular issue [Witness Statement, p.1]:

> I discussed with [Regional Manager] in very great the basis of our quotation and the fact that it was wholly based on [Main Contractor's] Enquiry documents. [Main Contractor] were clearly aware of the presence of voids because we identified them in our Quotation. At the meeting I was specifically asked to show our price for the voids, which we had identified in the Enquiry documents and included in our Quotation. There can be no doubt that following that meeting [Main Contractor] knew that we had based our Quotation on the Enquiry documents, where the voids were in relation to the structure of the school and what price we had included.

By contrast, the Regional Manager (*Main Contractor*) said in his witness statement concerning this particular issue [Witness Statement, p.2]:

> I did attend a pre-start meeting with [Subcontractor] to discuss the logistics of commencing on site

The Arbitrator preferred the witness statement of the Commercial Director (*Subcontractor*) and his testimony in cross-examination during the hearing. In addition, he placed further reliance on the credibility of the Commercial Director's (*Subcontractor*) evidence due to his letter sent the same day as the meeting. He said [Award pp.13&14]:

> On the same day [meaning the same day as the meeting] he [Commercial Director] wrote to [Regional Manager] setting out [Subcontractor's] prices for

each school and identifying the void element. It is not disputed by [Main Contractor] that the void element was that identified in the enquiry drawings

The Arbitrator identified two main issues for him to decide (Award pp. 18&19), namely*:*

- The material terms of the Subcontract
- The effect of the order placed on the design of the Subcontract works in October 2008 [The letter of intent]

Issue 1 – The Material Terms of the Subcontract - The Arbitrator considered that the Subcontract dated 24th March 2009 contained standard terms and conditions which were inconsistent with the Subcontractor's tender quotation dated 1st October 2008. He made particular reference to condition 1 of the Subcontract. He said:

> *These conditions are to the exclusion of all other terms and conditions unless otherwise specifically agreed in writing.*

Consequently, the Arbitrator held that the Subcontract operated as an offer to the Subcontractor to contract on its terms. The Subcontractor accepted them by signature and returned the document on 25th March 2009.

Issue 2 – The Effect of the Order Placed on the Design - The Arbitrator recapitulated the Subcontractor's arguments (Award, pp. 20&21):

1. On the Order form, the words [Main Contractor] Enquiry had the effect of including all the drawings supplied to [Subcontractor]. On 11th April 2008 which showed only limited areas of void as requiring protection.
2. On the Order Form, the words under the heading **Correspondence,** As per meeting with [Regional Manager] had the effect of incorporating into the Subcontract the matters discussed at the meeting, which included the extent of void protection allowed for in the quotation and the cost allowed for that void protection.
3. The Subcontract did not contain an "entire agreement" clause, so that it was permissible to treat as incorporated in the Subcontract oral terms, which were not expressly set out in writing.

The Arbitrator recapitulated the Main Contractor's arguments (Award, pp. 21&22):

1. On the Order Form, the words under the heading **Correspondence,** As per meeting with [Regional Manager] had the effect of incorporating into the Subcontract only the letter of 16th October 2008. The letter was only concerned with the overall price of the works. The word correspondence could not include the discussion of a meeting.

In relation to the Parties' arguments the Arbitrator decided (pp. 24-27):

1. The Arbitrator rejected the Subcontractor's first argument. He said:

   The Order Form contains a number of separate boxes with –pre-printed headings. [Main Contractor] Enquiry is one such. The colon shows that it is intended to be followed by some words inserted when the form is filled in. In the absence of such words I find that the heading is of no effect and does not import the drawings sent with the Enquiry on 11th April 2008.

2. The Arbitrator accepted the Subcontractor's second argument. He said:

   As a matter of ordinary use of language, the use of the words As per meeting with [Regional Manager] is apt to include everything discussed at that meeting. This involves including matters beyond the letter [Subcontractor letter dated 16th October 2008] sent subsequently by [Commercial Director], which seems to be the only candidate for a relevant item of **Correspondence** but it is the inescapable results of the words used. I bear in mind that the order form is just that, a pre-printed form, and that in the event of conflict between its words and the words specifically chosen by the parties the latter should prevail.

   Even if I was wrong on this point, in my finding the letter of 16/10/08 defines the price for the void protection element. This can of course only have resulted from the areas where such voids were present having been identified by agreement. [Main Contractor] cannot complain if having required [Subcontractor] to identify the areas of voids requiring protection included in its quotation for one purpose, [Subcontractor] seeks a variation under the Subcontract when called upon to provide protection to greater areas than included in its tender. This is confirmed by the fact that the price in the order form corresponds to the price in the letter of 16/10/08. I do not accept that the condition [to comply with BS EN 12845 and LPC] has the effect of automatically obliging [Subcontractor] to provide void protection to all areas of void which might be required by the final design of the school as set out in the construction issue drawings. The Subcontract works including the location and amount of void protection were as defined and agreed at the meeting of 16/10/08 and the subsequent letter.

3. The Arbitrator accepted the Subcontractor's third argument. He said:

   There is no provision excluding representations and collateral agreements from having legal effect.

The Arbitrator found for the Subcontractor and decided that it was entitled to payment in full.

6.5.6 Practitioner's Reflection

In my discussions with the Commercial Director (*Subcontractor*), I discovered that this dispute involved two Parties who were well known to each other and who had developed a good business relationship having worked together on previous projects.

On this basis, the Main Contractor invited the Subcontractor to tender for four projects simultaneously, in conjunction with the commercial benefits of more competitive tenders being offered by the Subcontractor. There is a strong implication that a good level of trust had developed between the Parties. In my discussions with the Commercial Director (*Subcontractor*) he told me that the Parties had not had a dispute prior to this one.

This process fits the discrete neoclassical contractual arrangement because the Parties intended future collaboration (Cheung et al, 2006). In this context the Main Contractor was prepared to retain the Subcontractor's services on successive projects (Gil, 2009). Cullen and Hickman (2012) make the point that in such a contractual arrangement parties rarely resort to formal dispute resolution procedures, instead they resort to informal means. However, this was not the case here. Although the Parties attempted to resolve the variation issue an impasse was reached at which point the Subcontractor instigated arbitration proceedings.

On discovering the need for additional sprinkler protection to ceiling voids, the Subcontractor understandably pointed out to the Main Contractor that the decision to omit protection to ceiling voids was by others. However, the Main Contractor tried to protect its position right from the start, insisting that it was nevertheless the Subcontractor's responsibility. Initially, the Parties did not engage with each other in discussion aimed at reaching an agreement. Instead, each party took a positional stance arguing for what it wanted without conceding any ground to reach a compromise. According to Akintan and Morledge (2013) this culture of "…blames and counter blames between these key project participants…are endless" (Akintan & Morledge, 2013, p. 3). This goes against Hillman's (1997) claim that generally parties would primarily adopt a united approach to preserve the business relationship "…based on the assumption that the parties act out of self-interest within a context of trade custom balanced by social value" (Hillman, 1997, p. 130). Therefore, at that stage the notion that the Parties had a trusting relationship is at odds with its reaction to the discovery of the need for additional sprinkler protection. In addition, this does not accord with the perception that trust is a prerequisite for increased party commitment (Morgan & Hunt, 1994; Dahlgaard & Dahlgaard, 2003). Clearly, in this instance that was not the case. And, aligned to trust, the Parties did not show any

signs in "…believing an ongoing relationship…is so important as to warrant maximum efforts of maintaining it…" (Morgan & Hunt, 1994, p. 25). As such, the existing relationship developed an element of mistrust (Akintan & Morledge, 2013), evidenced particularly by the meeting between the Contracts Director (*Main Contractor*) and Commercial Director (*Subcontractor*).

I was surprised to discover that the Main Contractor invited the Subcontractor to tender for the works without stipulating that the Main Contractor's terms and conditions would apply, given that the Subcontractor's tender offer was stipulated to be based on the Subcontractor's own terms and conditions. In my experience it is common for main contractor's to expressly exclude the subcontractor's terms and conditions for its own. In this particular instance, the Main Contractor's Subcontract had such an express clause which stated, "These conditions are to the exclusion of all other terms and conditions…" (Subcontract, p. 1). Perhaps this was an oversight by the Main Contractor, or it was fairly relaxed about such matters due to the Parties previous dealings and good relationship. Another possibility could be that because the design stage was split from the installation stage, the Main Contractor was prepared to instruct the Subcontractor to design the works without stipulating that the Main Contractor's terms and conditions applied due to the design stage being relatively low risk. But not the installation, as this constituted a much higher risk.

The meeting of 16th October 2008 between the Commercial Director (*Subcontractor*) and the Regional Manager (*Main Contractor*) to discuss the works and the price was not a typical pre-contract meeting. No minutes of the meeting were taken. In fact, the only record of the meeting was the Commercial Director's (*Subcontractor*) letter sent the same day and his contemporaneous notes disclosed during the arbitration hearing. Thereafter, and without objection to the Subcontractor's tender offer and letter the Main Contractor instructed the Subcontractor to proceed with the design of the works, which the Subcontractor acknowledged by email the same day.

From an objective interpretation of the Parties course of dealing at that stage they had reached an agreement whereby the Subcontractor would design the works based on the tender enquiry documents and tender offer including the letter of 16th October 2008. Letters of intent are widely used in the construction industry and the exact form they take varies, which gives rise to many commentators who advise against their use

(Davies et al, 2005). Additionally, they are frequently criticised for being used carelessly *Arcadis Consulting (UK) Limited v AMEC (BSC) Limited* (2016). In this instance, it is unknown why it was necessary to separate the design of the sprinkler protection from the installation, particularly when the total price and scope of work had been agreed. It might have been because the Main Contractor was used to using them and considered a letter of intent to be part of the usual process, rather than because it was actually needed. The letter was drafted in very plain terms, simply instructing the Subcontractor to develop its design in conjunction with the Main Contractor. For example, there was no price agreed specifically for the design or no cap on value *Spartafield Limited v Penten Group Limited* (2016). In addition, even though the letter of intent made express reference to the Parties' pre-subcontract meeting (at which the Subcontract tender was discussed) there was in fact no meeting minutes taken recording a consensus of what had been discussed and agreed. Whilst the letter of intent was eventually subsumed by the Subcontract, what was discussed and agreed at the pre-subcontract meeting created uncertainty and disagreement, which formed the very basis of the letter itself. It is instructive to add that in the opening paragraph of his judgment, in the leading case on whether a letter of intent gives rise to a contract, *RTS Flexible Systems Limited v Molkerei Alois Muller GmbH & Co. KG* (2010) Lord Clarke noted, among other things:

> The different decisions in the courts below and the arguments in this court demonstrated the perils of beginning work without agreeing the precise basis upon which it is to be done (*RTS Flexible Systems Limited v Molkerei Alois Muller GmbH & Co. KG* (2010), Lord Clarke, para. 1)

The extent of sprinkler protection to voids was known and included in the tender offer. This was reinforced by virtue of the fact that the tender offer expressly stipulated that should there be any change to the scope of works concerning void protection, it would be a variation to the agreement.

There was an indubitable agreement between the Parties at that stage. The accepted analysis was, according to the Subcontractor and Arbitrator, that it resulted in a standalone agreement under which the Subcontractor would be paid for the design work element only in the event that the installation work element was not awarded to the Subcontractor. This accords with Mitchell (2009) that the Subcontractor was not willing to start design work without some contractual protection in place. As such,

the Main Contractor constructed and relied upon the informal device of an email, which signaled commitment in the form of a letter of intent, which the Subcontractor duly acknowledged.

6.5.6.1 *Post Subcontract and Arbitration*

When it was pointed out by the Client's insurer in late August 2009 that there were ceiling voids in excess of 800mm without sprinkler protection, the Parties' relationship took a turn for the worse. The Subcontractor argued that it had been notified by the Main Contractor that the ceilings would be raised to reduce voids to below 800mm; whilst the Main Contractor did not dispute this, it simply argued that the Subcontractor was to comply with BS EN 12845 and the requirement to install sprinkler protection to voids over 800mm. What was not clear or known was why the ceilings were not raised. In addition, it is unclear why the Parties did not realise for themselves that the ceilings had not been raised.

In what appeared to be an attempt to resolve matters the Contracts Director (*Main Contractor*) called a meeting for 24th September 2009 with the Commercial Director (*Subcontractor*) and the Building Services Manager (*Client*). The emergency meeting as it was called by the Contracts Manager (*Main Contractor*) is a good example of what Kadefors (2004) maintains is that there are occasions when parties attempt to jointly resolve problems that arise in the course of the project, but (as in this case) these are often spontaneous and unplanned; the central focus of such attempts are to find compromises. There were apparent disparities between the Parties and the Building Services Manager (*Client*) concerning what was agreed, identified from their respective witness statements. The Commercial Director's (*Subcontractor*) understanding was that it would be paid for the additional work at 70% of its cost without profit on the basis that the Main Contractor would offer it other projects in the future.

However, the Contracts Director's (*Main Contractor*) understanding was that the subcontractor would undertake the work at its own cost. The Building Services Manager's (*Client*) understanding was that each party would share the cost and bear its own costs associated with the works i.e. Client would cover any builders work; Main Contractor would cover mechanical and electrical services work; and the Subcontractor would install the sprinkler protection. There was clearly a lack of

certainty created by the Parties and the Building Services Manager's (*Client*) failure to record the meeting discussion in writing. Notwithstanding, although there were disparities between them as to what was said and agreed the outcome of the meeting is aligned, to some extent, with the notion of some form of trust. There seems to have been a degree of honesty, openness, fairness and cooperation – and the feeling that each party would do what they said they would do (Burchell & Wilkinson, 1997). Taking Wightman's (1996) example of a main contractor and subcontractor relationship and applying it to this case, it would appear from what was discussed and agreed at the meeting that it was in the self-interest of those present for the sprinkler installation work to be completed successfully. But that would not happen if the issue concerning the voids requiring sprinkler protection was, "…pounced on as an excuse for terminating and claiming damages" (Wightman, 1996, p. 15).

During the post meeting discussion between the Commercial Director (*Subcontractor*) and the Contracts Director (*Main Contractor*), the Commercial Director (*Subcontractor*) advised me that the Contracts Director (*Main Contractor*) expressed distrust towards the Building Services Manager (*Client*) but wished to continue the Parties' good business relationship. Yet the following day, the Contracts Director (*Main Contractor*) by telephone threatened not to pay the Subcontractor a large outstanding payment unless the Subcontractor would undertake the additional sprinkler protection work. The Subcontractor felt it had no option but to comply but insisted on the work being a variation under the Subcontract. The actions of the Contracts Director (*Main Contractor*) showed what might be judged as cruelly enforcing the terms of the Subcontract (albeit in an underhand way) in such a manner that the long-standing relationship was effectively terminated the moment he adjudged there was a failing (or refusal) by the Commercial Director(*Subcontractor*) (Briscoe et al, 2001). This frustrated the Subcontractor's attempts to seek compensation for the additional work, even when, as it turned out, it was awarded its claim (Akintan & Morledge, 2013). Without knowing for certain, it would seem that the Client was unwilling to share in the cost of the additional work. This was perhaps the driving force behind the Contracts Director's (*Main Contractor*) actions, which resulted in the degeneration of the Parties' relationship, once the Contracts Director

(*Main Contractor*) knew that potential profits could be eroded (Dainty, Briscoe & Millett, 2001).

Although it is unknown why the Contracts Director (*Main Contractor*) acted in such a way, one may speculate on the situation the Main Contractor found itself. It was clear from the 24th September 2009 meeting that the Building Services Manager (*Client*) did not consider the additional sprinkler protection a variation and was not willing to pay additional monies to the Main Contractor. The Main Contractor apparently did not dispute this point. The Subcontractor was potentially in a good position to argue for the work being a variation under the Subcontract. Consequently, the Main Contractor was in a difficult position in terms of liability to the Subcontractor. One would have thought that in view of this the Main Contractor would have been more willing to reach an agreement concerning costs. However, when the Subcontractor sought payment and subsequent arbitration the Main Contractor stood its ground and refused to pay. In the arbitration that followed the Main Contractor relied entirely on the interpretation of the terms of the Subcontract in its defence, to its detriment. It was the case that the Main Contractor attempted to strictly apply the Subcontract terms with no consideration given to sustaining its relationship with the Subcontractor for future business dealings (Akintan & Morledge, 2013).

As Humphreys et al (2003) may have put it, the Main Contractor probably realised there was a potential for cost saving through the Subcontractor. Resulting in the unfair practice of unduly pressurising the Subcontractor to carry out the additional work from its own financial self-interest. Perhaps this single action by the Main Contractor was the catalyst for the whole dispute becoming an impasse to informal resolution between the Parties. Thereafter, any notion of trust contemplated by the Subcontractor, what some scholars regard as the most fundamental ingredient to the success of any business relationship must have dissolved at that moment (McDermott et al, 2004; Hakansson et al, 2004).

On receipt of the Subcontract the Commercial Director (*Subcontractor*) said in his witness statement (page 4):

> I noticed that the order incorporated the Enquiry and the meeting with [Regional Manager], and in reliance of these aspects I signed and dated 25th March 2009 and returned to [Main Contractor]. The order attached [Main

> Contractor] terms and conditions and stipulated the basis of the price. The price stated in the order was [£XYZ] as provided in our quotation.

It is clear that the Commercial Director (*Subcontractor*) erroneously considered the tender drawings were incorporated under the heading 'Enquiry' stipulated in the Subcontract even though the space allocated for wording to be inserted was left blank. In other words, the tender drawings were not expressly written in the Enquiry space. He either considered that the word 'Enquiry' was sufficient to incorporate the drawings, or he failed to realise that the drawings had to be written in, or he considered that it was obvious to both Parties what the word 'Enquiry' meant.

There was no misunderstanding about the existence and formation of the Subcontract; the Subcontractor had considered it before signing it. Performance of the installation part of the sprinkler work was not commenced until the Subcontract was signed and returned to the Main Contractor. It is fair to say that the Subcontractor considered the signing of the Subcontract as almost simply a formality. This would seem to accord with Blomqvist, Hurmelinna and Seppanen's (2005) view of a contract's three main functions; to create a legally binding agreement, in this case by signature; to identify the contract documents, those stipulated in the Subcontract; and to provide evidence of the nature and contractual obligations and its compliance, in this case by signing and returning the Subcontract. The Subcontractor did not, as is often the case, simply treat the Subcontract as "…pieces of paper…" used "…in the course of commerce…" (Suchman, 2003, p. 92).

It is not known why the Main Contractor left the space blank when engrossing the Subcontract. From an objective interpretation, as the originator of the Subcontract, the answer points towards an oversight. However, in contrast in its statement of defence (page 24) the Main Contractor argued:

> It is denied that the Respondent [Main Contractor] placed and entered into the sub-contract on the basis of the preliminary drawings [Enquiry drawings], which the Respondent had sent to the Claimant [Subcontractor]

It is curious to observe that the Main Contractor placed no reliance on its own Enquiry drawings sent to the Subcontractor for the very purpose of providing a design and price for the works. In reliance on the Subcontract the Main Contractor also argued in its statement of defence (page 25):

> The sub-contract order makes no reference to the drawings [Enquiry drawings] sent to the Claimant by the Respondent in April 2008 and the latter therefore do not form part of the sub-contract

The Arbitrator accepted this point of defence. Therefore, the Main Contractor was able to rely on the Subcontract as a means of successfully arguing that the enquiry drawings did not form part of the Subcontract. As Clegg (992) highlights, "…no interpretation is ever innocent of interest" (Clegg, 1992, p. 134). The Parties did have different vested interests in the interpretation of the Subcontract. It would seem that the Subcontractor based its own interpretation on an honest, but erroneous, understanding that the enquiry (drawings) were part of the Subcontract. The Main Contractor knew that the Subcontractor had relied on the enquiry and that was how the design was developed, but instead exhibited a more self-interested contracting behaviour. One in which it was willing to exploit an opportunity to defend itself (Wilkinson-Ryan, 2011; Brownsword, 2000).

The Commercial Director (*Subcontractor*) also placed reliance on his meeting with the Regional Manager (*Main Contractor*) and the fact that the Subcontract tender price was exactly the same as the price entered in the Subcontract. On that basis it would seem that he considered the basis of the tender price and the meeting formed part of the Subcontract price. In contrast to the Commercial Director's account of what was discussed and agreed, the Regional Manager (*Main Contractor*) said very little. It is unknown why, but his motive for not wanting to say more was clearly to protect the Main Contractor's position. It certainly went against him in the arbitration, and ultimately the Main Contractor's defence. Instead, the Main Contractor seemed to place greater reliance on its argument that only the Subcontract's letter of 16th October 2008 was incorporated and not the discussion itself. The Arbitrator disagreed. The Main Contractor argued in its statement of defence (page 29):

> The heading 'Basis of Sub Contract Price' identifies the basis of the price by reference to specific documents, namely the specification pages and drawings identified in that section. It does not relate directly back to the preliminary drawings [Enquiry drawings], which the Respondent sent to the Claimant in April 2008 or the Claimant's quotation dated 1st October 2008 or the Claimant's letter dated 16th October 2008.
>
> And (page 43):

> It is admitted that there was a meeting as alleged. The void elements should have been those identified as required by the Claimant as a specialist design and build sprinkler system sub-contractor.

The Arbitrator rejected these points of defence. Again, this highlights what Clegg (1992) refers to as an interpretation based on self-interest rather than on what the Parties' intentions, and true agreement, were. The Main Contractor attempted again to take advantage of the somewhat loose wording of the Subcontract but to no avail.

6.5.6.2 *Summary*

As a consequence of the Parties' previous dealings, coupled with the Main Contractor having invited the Subcontractor to tender for four projects at once, this symbolised a strong element of trust and cooperation between them (Burchell & Wilkinson, 1997). This may have influenced the very informal way the Parties entered into Subcontract for the design element of the works, via an unsophisticated letter of intent referenced to a meeting in which no formal record was taken as to its contents. As Judge Humphrey Lloyd commented:

> …people who have agreed to proceed on the basis of mutual cooperation and trust are hardly likely at the same time to adopt a rigid attitude as to the formation of a contract (*Birse Construction Limited v St. David Limited (No. 1)* 1999)

Nevertheless, the Subcontractor was not entirely prepared to what Lord Atkin once said: "Business habitually…trust to luck or the good faith of the other party" *Phoenix Ins Co v De Monchy* (1929*,* Atkin, 439, cited in Summers, 1999). The Subcontractor was not prepared to start work without some contractual protection in place, particularly an instruction to start design work symbolising an acknowledgement by the Main Contractor that it would cover payment at the very least.

The Subcontract placed by the Main Contractor superseded the letter of intent agreement concerning the design element. It was, as the Arbitrator decided, an offer to the Subcontractor, which the Subcontractor accepted. It is unknown whether the Parties appreciated this point. It would seem that the Subcontractor thought that it encompassed the design as agreed and the installation. Had it not been for the express reference to the Parties' meeting on 16th October 2008 in the Subcontract, and the fact that the Subcontract price matched the Subcontractor's tender price, it is unlikely that the Subcontract would have been successful in the Arbitration. The

Subcontractor's misunderstanding indicates that the contractual agreement, according to the Subcontractor, was subjective in nature, and not in fact (Rousseau & Parks, 1993). From an objective perspective there was common agreement that promise, payment, and acceptance had occurred by executing the Subcontract. However, the Parties held different perceptions concerning the finer contents of the Subcontract resulting in the Subcontractor's belief being completely at odds with the Main Contractor's (Rousseau & Parks, 1993). That said, there was strong evidence that the Main Contractor's understanding accorded with that of the Subcontractor, but nevertheless attempted to argue to the contrary relying on the poorly drafted Subcontract to avoid the economic burden of paying for the additional sprinkler protection. A dishonest approach one might conclude. Unlike Suchman's (2003) observations, the Subcontractor did not treat the Subcontract as simply "…pieces of paper…" used "…in the course of commerce…", but rather as a written document signifying an agreement, albeit without a complete "…comprehensive understanding of…the evidentiary implications" (Suchman, 2003, p. 92).

Consequently, on the one hand the Parties entered into an agreement for the design element only. Later an agreement was formed not entirely the same but sufficiently enough to include the Parties' pre-subcontract meeting and an understanding that the Subcontract tender price corresponded to the price in the Subcontract.

It is unknown whether the Subcontract was drafted the way it was by design or oversight. It would have been straightforward enough to incorporate the basis of the pre-subcontract design agreement into the Subcontract by listing the relevant documents. It seems unlikely that the Subcontract was drafted to deliberately exclude the pre-subcontract design. It was more likely to have been an oversight. The pre-subcontract meeting was incorporated into the Subcontract without any formal record of its contents. Quite what was in the mind of the drafter is unknown, but this scenario is similar to the point raised by Murdoch and Hughes (2008), that such incorporation often fails wholly or partially, leading to misunderstanding and fusion for the parties as to what the agreement means. For example, it took, among other things, witness statements from the Commercial Director (*Subcontractor*) and the Regional Manager (*Main Contractor*) in the arbitration followed by cross-examination to ascertain what was supposed to have been discussed and agreed at the meeting.

In the end, the Main Contractor sought to try and take advantage of the loosely drafted particulars in the Subcontract. It argued that the Parties' meeting only incorporated what was discussed and not the Subcontractor's letter. But this failed. The Main Contractor did however successfully argue that the tender enquiry drawings were not part of the Subcontract. The uncertainty created by the Subcontract gave the Main Contractor an opportunity to exhibit opportunistic behaviour (Williamson, 1985), motivated to pursue its self-interest with deceit to achieve financial gains at the expense of the Subcontractor (Das & Rahman, 2010; Lu, Qian, Chu & Xu, 2016).

Had the Subcontract not been placed but instead a further instruction given similar to the instruction for the design, it is very doubtful that the Main Contractor would have had any defence at all.

A framework for categorising the potential root causes of the dispute relating to the variation concerning practice-based inquiry 2 is presented (Table 10).

Table 10: Framework for Categorising the Root Cause(s) of the Dispute

Practice-Based Inquiry 2

Variation for Additional Sprinkler Protection			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
1	The Main Contractor ignored its advice to the Subcontractor, that the ceilings could be raised to overcome the necessity for sprinkler protection to voids and refused to accept responsibility for this. Instead it argued that the Subcontractor had not installed a compliant sprinkler system in accordance with the Subcontract. This indicates that the Main Contractor acted dishonestly.	**(1)** ***Variations*** (Malleson, 2015, 2012; Harris & Arcadis, 2014, 2013, 2012; Love et al, 2011; Love, Davis & Ellis, 2010; Blake Dawson Waldron, 2006; Killian 2003; Brooker, 2002; Kumaraswamy, 1997; Heath, Hills & Berry, 1994; Semple, Hartman & Jergeas, 1994; Hewitt, 1991) **(2)** ***Contract interpretation*** (Malleson, 2018, 2015, 2013, 2012; Love, Davis & Ellis, 2010; Ohrn & Rogers, 2008; Murdoch & Hughes, 2008; Blake Dawson Waldron, 2006; Heath, Hills & Berry, 1994; Hughes & Greenwood, 1996) **(3)** ***Conflicting party interests*** (Harris & Arcadis, 2012, 2013; Xiao-Hua et al, 2013) **(4)** ***Mistrust*** (Akintan & Morledge, 2013) **(5)** ***Lack of collaboration*** (Akintan & Morledge, 2013) **(6)** ***Behaviour/Opportunism*** (Malleson, 2012; Love, Davis & Ellis, 2010; Cheung & Yiu, 2006; Mitropoulas & Howell, 2001) **(7)** ***Adversarial behaviour*** (Spittler & Jentzen, 1992) **(8)** ***Contract documents*** (Akintan & Morledge, 2013; Love et al, 2011; Love, Davis & Ellis, 2010; Kumaraswamy,1997; Cheung & Yiu, 2006; Sykes, 1996; Rhys-Jones, 1994; Spittler & Jentzen, 1992; Totterdill, 1991)	**Summary** Had the ceilings been raised as the Main Contractor advised the Subcontractor they would be, the variation would not have arisen. The reason for that remained unknown. Notwithstanding, the Main Contractor's behaviour in not acknowledging this or attempting to reach an amicable agreement with the Subcontractor is likely to have been as a result of the Client's unwillingness to accept any potential liability and/or pay the Main Contractor for the variation. Consequently, the evidence indicates that the root cause of the dispute was the Main Contractor's decision to rebut the Subcontractor's claim, by fair means or foul. • ***Adversarial behaviour;*** • ***Self-interest;***

Variation for Additional Sprinkler Protection Cont…			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
2	The Main Contractor exhibited a motive to deceive the Arbitrator through the Regional Manager's (*Main Contractor)* witness statement, which was written in such a way as to reveal as little as possible about what was discussed and agreed at the Parties' pre-subcontract meeting on 16th October 2008, in which the extent of the void protection was made known by the Subcontractor, evidenced by its letter dated the same day.	As Variation (1)	As Variation (1)
3	The Main Contractor was prepared to stand its ground despite the Subcontractor having a good prospect of success in the arbitration. This indicated a bloody-minded approach by the Main Contractor. This approach might have been fueled by the Main Contractor's inability to agree the additional sprinkler protection as a variation with the Client.		
4	The Main Contractor placed no reliance on its own tender enquiry plans sent to the Subcontractor for pricing, but instead successfully argued that the Subcontract made no reference to the plans in an attempt to avoid any liability concerning them. This indicates that the Main Contractor was acting in its own interests by taking advantage of the terms of the Subcontract.		

6.6 Practice-Based Inquiry – 3

Practice-Based Inquiry – 3 concerns a dispute between a Main Contractor and a Subcontractor regarding the Main Contractor's termination of the subcontract and its non-payment of the Subcontractor's interim application for payment, referred to adjudication for resolution.

6.6.1 The Parties

The Subcontractor is a company that carries out civil engineering works including groundworks, excavations, drainage, hard landscaping, concrete structures and general site clearance in the UK construction industry. It has over 21 years of experience providing such works. It employs between 30 and 100 people at any one time with a turnover of around £7m.

The Main Contractor is a company that designs and constructs new buildings including refurbishment works, planned maintenance and restoration of historic structures in the UK construction industry. It employs around 100 people and has a turnover of around £30m. The company's origins date back to 1874 making it one of the oldest construction companies in the UK.

The Main Contractor and the Subcontractor are hereinafter collectively referred to as the Parties. In addition to the Parties, reference is made to other third parties and individuals identified as follows:

- Managing Director – (*Subcontractor*) responsible on behalf of the Subcontractor for overseeing all projects from inception to completion, day-to-day management, planning and appointing sub-subcontractors and suppliers (witness statement, p.1).
- Quantity Surveyor – (*Subcontractor*) responsible on behalf of the Subcontractor for preparing estimates and tender documents and negotiating contracts, preparing contractual claims, valuing completed work in progress and final accounts.

  NB: This description is based on my own understanding of the Quantity Surveyor's duties as there is no other information or witness statement available.
- Contracts Manager – (*Main contractor*) responsible on behalf of the main contractor for overseeing all aspects of particular projects including programming, health and safety, subcontract procurement and client liaison from inception to completion (witness statement, p.2).

- Site Manager – (*Main Contractor*) responsible on behalf of the Main Contractor for site works including attending site meetings, organising labour force and subcontractors, checking works/quality, resources and cost (witness statement, p.2).
- Site Supervisor – (*Main Contractor*) responsible on behalf of the Main Contractor for attending daily/weekly meetings with the Site Manager, inductions of subcontractors, assist with health and safety issues, organise deliveries to site, liaising with subcontractors (witness statement, p.2).
- Quantity Surveyor – (*Main Contractor*) responsible on behalf of the Main Contractor for preparing tender and contract documents, including bills of quantities with the architect/client and subcontractors, allocate work to subcontractors, negotiating contracts, preparing contractual claims, valuing completed work in progress and final accounts.

  NB: This description is based on my own understanding of the Quantity Surveyor's duties, as there is no other information or witness statement available.
- Client - the School (end user) under a main contract with the Main Contract for the provision of the construction of a new arts and music building.
- Adjudicator – an independent third-party person appointed by an authorised adjudicator nominating body responsible for making the decision between the Parties.

6.6.2 The Practitioner's Involvement

The Subcontractor made a claim for interim payment during the course of the project. The Main Contractor disputed it and refused to make payment. In addition, the Main Contractor terminated the subcontract for alleged breaches by the Subcontractor to proceed with the works, resulting in delay to the Subcontract and the main contract works. Consequently, a dispute arose between the Parties concerning these two main issues. The Main Contractor was unwilling to enter into negotiations, resulting in the Subcontractor referring the dispute to adjudication.

I was appointed by the Subcontractor in early February 2013 to provide my advice concerning the merits and prospects of success in defending the Main Contractor's termination and the Subcontractor's recovery for payment. In March 2013 I wrote to the Main Contractor and set out the Subcontractor's position and requested payment. The Main Contractor refused to make payment and maintained its position and made a counter-claim for damages due to the termination.

I prepared the Subcontractor's case for referral to adjudication and acted as advocate during the adjudication proceedings. Briefly, this involved preparing an initial

submission (known as a Referral) setting out the Subcontractor's case together with all the information that we wanted the Adjudicator to consider; this included drafting a witness statement on behalf of the Subcontractor. For example, the submission explained the nature of the dispute and how it arose, it detailed the facts relied upon supported by documentary evidence, it provided details of the Subcontractor and the contractual remedies which were sought and listed the orders that we required the Adjudicator to make.

Adjudication is a non-judicial statutory procedure by which any party to a construction contract has the right to have disputes decided by an adjudicator. The adjudication process involves an independent adjudicator who makes a relatively quick decision concerning the parties' dispute. The decision of the adjudicator is binding on the parties, unless the dispute is finally determined by legal proceedings or arbitration.

6.6.3 Background to the Dispute and Chronology of Events Pre-Adjudication

In late April 2012, the Main Contractor invited the Subcontractor to tender for the supply and installation of ground and concrete works and below ground drainage as part of a development for a new arts and music building to a school.

Tender enquiry documents in the form of drawings and specifications, were sent to the Subcontractor for the purpose of providing a tender price. At the end of May 2012, the Subcontractor provided a tender price, which the Main Contractor accepted subject to the issue of a subcontract order (**Subcontract**).

In mid-August 2012, the parties held a pre-subcontract meeting to discuss various matters relating to the project and Subcontract particulars. At the end of August-2012 the Main Contractor sent a Subcontract that the Subcontractor accepted, signed and returned. The Subcontractor had already commenced work on site a few days prior to receipt of the Subcontract.

From commencement of the works on site up to the end of December 2012 the Subcontract works and the main contract works were in delay. Both Parties argued that each other were wholly or partly to blame for the delay. In mid-October 2012, the Main Contractor gave notice to the Subcontractor that it was not progressing the works in a timely manner and in accordance with the main contract programme. The Subcontractor was given two weeks to make up lost time or the Main Contractor would, by a further notice, terminate the Subcontract.

At the end of December 2012, the Subcontractor applied for interim payment, which the Main Contractor refused to pay. In early January 2013, the Main Contractor gave a further notice that, due to the Subcontractor's failure to comply with its previous notice in October 2012, the Subcontract was terminated.

Following my appointment in February 2013, I wrote to the Main Contractor on behalf of the Subcontractor requesting payment of its interim application, pointing out that the Main Contractor had erroneously applied the wrong terms of the subcontract to terminate it. Additionally, I also requested substantiation of the amount being withheld because the Main Contractor had not provided any evidence that the costs claimed had been incurred. The Main Contractor replied and disagreed refusing to make payment. Consequently, the Subcontractor referred the dispute to adjudication.

6.6.4 The Adjudication

I worked on preparing the Subcontractor's case for referral to adjudication from about 17th April 2013 to 14th March 2013. The adjudication proceedings started on 14th March 2013 and were completed with the Adjudicator's Decision on 6th May 2013. The Subcontractor framed the dispute in the following way:

> *A dispute under the Subcontract has arisen between the Parties. It is:*
>
> *a. [Main Contractor's] repudiation of the Subcontract as a consequence of its wrongful termination; and*
>
> b. *Non-payment by [Main Contractor] of [Subcontractor's] interim application dated 21st December 2012 in the gross sum of £176,598.43 in respect of which £88,422.38 is outstanding together with VAT.*

In essence, the Subcontractor requested the Adjudicator to make an award that the Main Contractor had repudiated the Subcontract and pays it the full value of its interim application for payment, including the payment of retention monies.

What follows is my review of the adjudication based on the Parties' written submissions and the Adjudicator's reasons for making his Decision. In the process of doing this, the manner in which the Parties formed the Subcontract is discussed and analysed.

During the adjudication process, the Parties made various submissions; reference is made to those submissions identified as follows:

- Referral – The Subcontractor's detail of its case and supporting evidence.
- Response – The Main Contractor's detail of its case in response/defence to the Referral and supporting evidence.
- Reply – The Subcontractor's further submission addressing new points raised in the Response.
- Rejoinder – The Main Contractor's further submission addressing new points raised in the Reply
- Decision – The Adjudicator's written Decision based on the Parties' written submissions and evidence.

6.6.4.1 *Invitation to Tender*

On 23rd April 2012 the Main Contractor sent tender enquiry documents to the Subcontractor inviting it to tender for the supply and installation of ground and concrete works and drainage as part of a development for a new arts and music building to a school.

The tender enquiry included architectural, structural, landscaping and mechanical & electrical specifications, bills of quantities, preconstruction information, construction site restraints, main contract programme, and general main contractor requirements. The main issues in dispute involved, among other things, matters of programme and the Subcontract terms and conditions, therefore particular details are given concerning programme and terms and conditions:

- Programme: (page 1 of Tender Enquiry)

  Carrying out the works in compliance with our reasonable construction programme.
- Terms and Conditions: (pages 3 & 4 of Tender Enquiry)

  7. Contract Type: NEC Standard Form of Engineering and Construction Contract: Option C.
- *20. Other Information*: [Main Contractor] *Subcontract Conditions.*

6.6.4.2 *Tender Offer*

The Subcontractor submitted its tender offer on 23rd May 2012. I do not possess a copy of the tender offer, but during my discussions with the Managing Director (*Subcontractor*) on 15th February 2013 he advised me that it consisted of the Subcontractor's price based on completion of the bills of quantities in conformity with the tender enquiry.

6.6.4.3 Pre-Subcontract Meeting

Subsequently, the Parties attended a pre-Subcontract meeting on 14th August 2012 to discuss particular requirements of the project. Meeting minutes were produced and submitted to the Subcontractor following the meeting. Particular details concerning programme and terms and conditions:

- Programme: (page 4 of Meeting Minutes)
  - *3.1 Provisional date for commencement on site: 28-Aug-12*
  - *3.2 Period for carrying out on-site works: 20 weeks*
  - *3.4 Visits: As agreed programme*
  - *3.7* [Sub Contractor] *will provide, in advance of commencement of the Sub-Contract works, a package works programme which links the above detailed resources.*
  - *9.4 Further information to be provided by the specialist contractor: Programme of work in line with main contract programme dates: ~~Yes~~/No*
- Terms and Conditions: (page 2 of Meeting Minutes)

1.2 Form of Main Contract & Amendments: NEC3/2005 Engineering and Construction: Option C

2.7 Sub Contract Terms & Conditions: The following [Main Contractor's) *standard Sub-Contract terms and conditions are applicable to the Main Contract form NEC3/2005*

6.6.4.4 *Subcontract*

The Main Contractor issued a Subcontract on 29th August 2012 to the Subcontractor, which the Subcontractor signed and returned on 31st August 2012. Particular details of programme and terms and conditions:

- Programme: (page 1 of Subcontact)

  Date of commencement: 27/08/2012

  date of completion: 08/04/2013
- Terms and Conditions: (page 2 of Subcontract)

  Sub-Contract Documents:

  1. *This Sub-Contract Order*
  2. [Main Contractor] *conditions of Sub-Contract*
  3. *Sub-Contract Interview Minutes Date 14/08/2012*

During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that the Subcontractor commenced work on site on, or around, 28th August 2012. In the adjudication, the Main Contractor disputed this, (discussed later). What happened thereafter is discussed in conjunction with the Parties' submissions in the adjudication and the Adjudicator's determination of the dispute.

6.6.5 Adjudication Proceedings

The dispute fell under two broad issues, (1) termination of the Subcontract, and (2) payment of the Subcontractor's interim application for payment.

6.6.5.1 *Termination of the Subcontract*

In order to fully understand the reasoning behind the Main Contractor's decision to terminate the Subcontract, it is necessary to explain and consider the chronology of events preceding the termination.

6.6.5.2 *Programme of Works*

The main contract programme issued to the Subcontractor with the tender enquiry showed a commencement date for the Subcontract works of 28th August 2012 with a completion date of 8th April 2013; the same dates as those stipulated in the Subcontract. This equated to an onsite period of 32 weeks.

The pre-Subcontract meeting minutes stipulated the same commencement date, but no completion date was given. Instead it stipulated an onsite period 20 weeks (Pre-Subcontract Meeting Minutes, p.4). During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that he had not received a copy of the main contract programme with the enquiry document but was shown a copy during the Parties' pre-Subcontract meeting. However, during a further meeting with me on 6th March 2013, he handed me a copy of the programme, which he had found. The programme showed the Subcontract works being carried out in two stages.

Stage 1:	Commencement	28th August 2012
	Completion	26th October 2012
Stage 2:	Commencement	4th February 2013
	Completion	8th April 2013.

There were a number of matters that delayed the Subcontract works discussed below.

6.6.5.3 *Delayed Start to the Work*

During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that the Subcontractor commenced work on site dated 3rd September 2012, resulting in a delayed start of about one week to the works. The reasons for this, pleaded in the adjudication, were (1) late receipt of the Subcontract; and (2) late receipt of steel reinforcement details, both from the Main Contractor.

In such circumstances where the Subcontractor is delayed, Clause 8.1 of the Subcontract provides:

> *If the Sub-Contractor is delayed in completing the Sub-Contract Works by the Date for Completion due to any reason which is grounds for an extension of time under the Main Contract, the Sub-Contractor shall notify the Contractor in writing as soon as, and in any event not later than 7 days after, such delay has or should reasonably have become apparent to the Subcontractor*

During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that he did not understand the terms of the Subcontract and did not read them; a feature that applied to all the Subcontractor's projects. He further advised me that he did not formally notify the Main Contractor about the delayed start, as he considered that it knew about the delay through discussions on site.

Instead, he placed reliance on, and trust in, his Quantity Surveyor (*Subcontractor*) for this purpose. However, during my meeting with the Managing Director (*Subcontractor*) on 6th March 2013, where the Quantity Surveyor (*Subcontractor*) was in attendance, it became apparent to me that the Quantity Surveyor's (*Subcontractor*) knowledge and involvement covered financial matters only. The Managing Director (*Subcontractor*) also explained that he relied, to some extent, on the trust of the Main Contractor through having worked with it before and had not experienced any serious disputes that could not be resolved by negotiation.

It is to be noted that Clause 8.1 is a strict provision requiring the Subcontractor to comply with it, otherwise it will disentitle the Subcontractor to an extension of time, holding it responsible for the delay. Notwithstanding, the Main Contractor did not raise this point in the adjudication, but simply contended that the Subcontractor's delayed start was not due to any delays or postponement on its part (Decision, p.13). The Adjudicator decided that although the Subcontractor failed to comply with Clause

8.1 of the Subcontract it was nevertheless not responsible for the delayed start to the Subcontract works.

6.6.5.4 *Main Contractor Instructed Variations*

During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that the Main Contractor issued a number of instructed variations. I asked him if they had affected the progress of the Subcontractor's work. He said he didn't know, save for one variation concerning ground water discussed below. In addition, he advised me that he did not monitor progress on site. Although, the Subcontractor pleaded in the adjudication that they did have an impact on programme, it was not possible to identify with any accuracy just what impact they had. In addition, with the lack of contemporaneous information, and the fact that the Subcontractor failed to monitor its own progress, it was not possible to undertake a retrospective delay analysis.

One of the variations that was not agreed between the Parties involved the Subcontractor having to deal with excessive ground water in the excavations. During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that this caused a delay to the site operations but wasn't certain if it caused delay to the works.

The Main Contractor at the time refused to acknowledge this as a variation and considered it a Subcontractor risk event. As part of the Main Contractor's submission in the adjudication, it included, among others, records of progress meetings 1 to 3 that were held between the Main Contractor and the Client; where in the event of exceptionally inclement weather a matter for an extension of time may be awarded under the main contract. The records had not been made available to the Subcontractor during the works but were relied upon by the Main Contractor in the adjudication (Response, Tab A, p.20).

It was only after scrutinising the records that I noticed this and that the Main Contractor had been awarded an extension of time of 3 weeks due to inclement weather. This fact had been concealed from the Subcontractor during the course of the works.

During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that he had not applied for an extension of time or advised the Main

Contractor that the Subcontract works had been delayed. Consequently, in spite of the strict requirement of Clause 8.1 of the Subcontract, the Adjudicator decided that it was reasonable to award the Subcontractor an extension of time for the same period (Decision, paragraph 47).

6.6.5.5 *Lack of and Regular Changes to Subcontractor's Labour Force*

During the adjudication proceedings, the Main Contractor argued (Response, paragraphs 4.7 to 4.10) that the Subcontractor failed to maintain adequate levels of labour on site, and there were regular changes to the labour force which delayed the Subcontract. This point had not been raised before the Adjudication, confirmed to me by the Managing Director (*Subcontractor*) during my meeting with him on 15th February 2013. Interestingly, it transpired during the Adjudication proceedings that there was an element of truth in the matter, for which the Subcontractor was held liable for a minor delay of one day (Decision, paragraph 48). It is unclear to me whether the Subcontractor deliberately concealed the matter from me in the hope that it would not arise, or didn't think it was important, or simply forgot about it.

6.6.5.6 *Additional Information*

During the adjudication proceedings, the Subcontractor argued that the Main Contractor delayed the Subcontract works and/or prevented the works from progressing due to a combination of late replies to requests for information, variations and changes to design (Referral, pp. 15-16). This point was argued by the Subcontractor in the Adjudication proceedings, but unfortunately as the Adjudicator decided the Subcontractor did not, and could not, prove the effect of these matters on the Subcontract works, there was insufficient detailed information to carry out a retrospective analysis of their effect.

6.6.5.7 *Defects and Inadequate Documentation*

During the adjudication proceedings, the Main Contractor argued that the Subcontractor had not rectified defects to tarmac and fencing that caused delay to the Subcontract works and the main contract (Response, paragraph 4.15). This point had not been raised before the adjudication, confirmed to me by the Managing Director (*Subcontractor*) during my meeting with him on 15th February 2013. The Adjudicator decided that the Main Contractor had failed to adduce sufficient evidence to

demonstrate what, if any, impact such defects had on the progress of the Subcontract works or the main contract completion date (Decision, p. 17).

6.6.5.8 *Main Contractor's Termination Notice Warning*

According to the Main Contractor, on or about 17th October 2012 the progress reports of the Subcontract works showed that it was behind the main contract programme by 3-4 weeks (Internal email dated 17th October 2012, p. 000081). As a result of this, on 17th October 2012 the Main Contractor issued a termination notice. It said, among other things:

> Under the NEC3 contract section 9 termination and dispute resolution clause 90.3, we confirm your failure, as of the 17/10/12, to comply with your subcontract responsibilities i.e. failure to progress the works in a timely manner, we therefore issue you with a 2 week notice to bring your works back in line with construction issue programme.
> Failure to comply with this notice will result in termination of your subcontract

A point of note at this juncture is that the Adjudicator concurred with the Main Contractor that the evidence showed, on balance, that the Subcontractor had not entirely progressed the Subcontract works in accordance with the main contract programme; and this had delayed the main contract programme by the same period. Notwithstanding, the Adjudicator considered there was no evidence to show, or suggest, that the Subcontractor would not complete the Subcontract works by the overall completion date of 8th April 2013, despite the delay to Section 1 of the Subcontract works. The main issue was not whether the Subcontractor could have completed the works by 8th April 2013, because due to the termination of the Subcontract that could never be known; it was the Subcontractor's obligation to proceed with the works in accordance with the Subcontract and completion of Section 1 by 26th October 2012.

Matters did not improve following the termination notice warning, with the Subcontract works falling further behind programme.

6.6.5.9 *Revised Subcontract Programme*

By email dated 22nd October 2012, the Site Manager (*Main Contractor*) requested from the Subcontractor a "…mini programme of works showing the progress of all [Subcontractor] works" (Main Contractor mail 22/10/12, p. 1). Following this email, the Parties met on site dated 24th October 2012 to discuss progress of the Subcontract

works (Subcontractor letter 24/10/12, p. 1). After the meeting on the same day, the Quantity Surveyor (*Subcontractor*) wrote to the Site Manager (*Main Contractor*). He said (Subcontractor letter 24/10/12, p. 1):

> Our proposed programme will be submitted to you today indicating a completion date of week commencing 10th December 2012 all as discussed, for our works included in visit No. 1 [Stage 1].
> Progress will be monitored, and a meeting of Monday 29th October 2012 is planned on site.

In my meeting with the Managing Director and Quantity Surveyor (*Subcontractor*) on 6th March 2013 they advised me that they submitted a programme but did not monitor progress of the works.

Having received a programme from the Subcontractor on 24th October 2012, the Main Contractor considered that it was inadequate and by email on 29th October 2012 the Main Contractor instructed the Subcontractor to provide an updated programme for the Subcontract works, showing how it intended to mitigate the delay. On 29th October 2012 the Parties held a meeting to discuss progress, but the Subcontractor failed to provide a further programme as the Main Contractor instructed. In response, on 30th October 2012 the Subcontractor provided a programme, which according to the Main Contractor, could not be accepted, again due to lack of detail, sequencing and logic of methodologies (Response, paragraph 4.12). Consequently, during the adjudication the Main Contractor argued that the Subcontractor had failed in its obligation to mitigate any delay to the Subcontract works (Response, paragraph 4.12). During the adjudication the Subcontractor argued that it was under no obligation to provide any programme in accordance with the pre-Subcontract meeting minutes, which read (Reply, paragraph 26).

> *9.4 Further information to be provided by the specialist contractor: Programme of work in line with main contract programme dates: ~~Yes~~/No*

The Adjudicator accepted the Subcontractor's argument (Decision, paragraph 60). The Subcontractor's argument was raised after careful scrutiny of the Subcontract documents. It was not something that the Subcontractor, or it would seem the Main Contractor, had known about prior to the adjudication. In such circumstances of delay, the Main Contractor could have exercised Clause 6.3 of the Subcontract, whereby it may issue directions to the Subcontractor to change the sequencing of the works to

facilitate the overall progress of the works; and/or by Clause 6.5 omit work to be carried out by others. Instead, it incorrectly directed the Subcontractor to provide its own programme.

By email dated 1st November 2012 the Site Manager (*Main Contractor*) raised the various points with the Subcontractor. He said:

> At our meeting dated 24th October, a hard written programme was presented. It was agreed that this was insufficient, and you would issue a more detailed programme of work showing all remaining activities up to the completion of the concrete frame. This didn't happen. It was also agreed by all parties that [Subcontractor] works were 5 weeks behind [Main Contractor] construction issue programme and that a revised completion date of 14th December was tabled by [Subcontractor]. At our second meeting dated 29th October 2012 you again arrived with no programme of works, following a heated discussion it was agreed that [Main Contractor] and [Subcontractor] would compile a programme of works. On 31st October [Main Contractor] and [Subcontractor] sat down and went through the programme; this exercise was cut short when the detailed information required was not forthcoming from [Subcontractor]. This exercise still needs resolving, we yet again ask [Subcontractor] to issue a detailed programme of works up to the completion of the concrete frame.

During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013 he advised me that he did not realise the works were 5 weeks behind or why. He also advised me that he did not challenge the Main Contractor's statement concerning the delay.

As a consequence of the Subcontractor's failure to provide an adequate programme of its own, on 9th November 2012 the Main Contractor issued a revised programme for completion of Stage 1 of the Subcontract works, extending the completion from 26th October 2012 to 21st December 2012, an adjustment of about 7 weeks (Response, paragraph 4.12). During my meeting with the Managing Director (*Subcontractor*) on 15th February 2013, I asked him what he understood by the revised programme. He said that the Main Contractor had allowed it further time to complete the Subcontract works, but wasn't aware of any impact this was having on the main contract.

During the adjudication, the Subcontractor argued that by issuing the revised programme extending the completion of Stage 1, the Main Contractor had effectively awarded the Subcontractor an extension of time of 7 weeks (Referral, paragraphs 51-52). This argument was not raised prior to the adjudication. In response, the Main

Contractor argued that the Subcontractor had not requested an extension of time in accordance with Clause 8.1 of the Subcontract.

The Main Contractor asserted that, in any case, the revised programme was a 'recovery programme', which resulted in a new completion date, not a programme extending time as an extension of time (Response, paragraph 4.20).

The Adjudicator was not persuaded by the Subcontractor's argument and decided that the revised programme was produced to reflect actual progress at the time it was issued. Therefore, the revised completion date of 21st December 2012 was reflective of what the Main Contractor considered the delay to Stage 1 of the Subcontract works was, which the Adjudicator accepted (Decision, p. 18).

6.6.5.10 *Events leading up to Termination of the Subcontract*

Throughout December 2012 matters worsened concerning the Subcontractor's progress, and it failed to complete Stage 1 of the works by the revised completion date of 21st December 2012.

Having analysed the Parties' submissions, the Adjudicator considered that the Subcontract works were about 8 weeks behind programme; and as they were on the critical path this meant that the main contract works were also in delay by the same period (Decision, paragraphs 73 & 74).

A critical issue that emerged during the adjudication concerned a meeting that was alleged to have taken place on 19th December 2012 between the Managing Director (*Subcontractor*) and the Contracts Manager (*Main Contractor*) (Decision, paragraphs 77-80). According to the Contracts Manager (*Main Contractor*) the Managing Director (*Subcontractor*) agreed to have the Subcontract terminated. He said (witness statement, pp. 6&7):

> I met [Managing Director] on site 19th December 2012 to discuss his position and he agreed termination of [Subcontractor's] Subcontract was the only remaining course of action. [Subcontractor] never sent resources to site as [Main Contractor] recommenced works after Christmas but in week commencing 7th January 2013 [Subcontractor] sent in transport to clear the remaining materials and plant and therefore on 9th January 2013 I confirmed [Subcontractor's] termination.
>
> As stated above termination the termination was not a surprise to [Managing Director] as this was what he wanted and was agreed on 19th December 2012.

In response, the Managing Director (*Subcontractor*) said [supplemental witness statement, p.7):

> [Contracts Manager] statement that the termination in January 2013 was no surprise to me is ridiculous. I was astonished by [Main Contractor] actions. I most certainly did not agree with [Main Contractor] to terminate my contract. Why would I give away over £80k and why am I now attempting to recover that money wrongfully withheld in adjudication if I agreed to the termination.

In addition, the Subcontractor challenged the Main Contractor's assertion on the basis that it had not adduced any contemporaneous evidence to support it; and the fact that it was never mentioned prior to the adjudication (Reply, paragraph 13).

This particular issue had not been raised by the Managing Director (*Subcontractor*) at our meeting on 15th February 2013, or at all. After considering the Contract Manager's (*Main Contractor*) assertion concerning the meeting, I was uncertain whether the Managing Director (*Subcontractor*) had forgotten he had a meeting, or had a meeting but concealed it from me, or the meeting never took place. In view of the seriousness of what was discussed at the meeting and coupled with the fact that the Subcontractor had decided to adjudicate the dispute, it seemed very unlikely to me that the Managing Director (*Subcontractor*) would have forgotten. During the adjudication of course, he denied ever having the meeting.

In response to the Subcontractor's assertion that the Main Contractor had not produced any evidence that a meeting took place, let alone what was discussed, the Main Contractor produced a site diary entry from 19th December 2012, which it claimed confirmed the meeting did take place. The diary entry stated (Rejoinder, paragraph 3.9):

> *[Managing Director] agreed to part company due to rc frame running behind.*

The Adjudicator was faced entirely with conflicting witness statements from the Managing Director (*Subcontractor*) and the Contracts Manager (*Main Contractor*). He therefore arranged a hearing on 16th April 2014 at which the evidence was tested orally, discussed later.

The site was closed for the Christmas break from 21st December 2012 until 7th January 2013. On the same day as the site closed, the Subcontractor issued interim application no. 4, claiming payment of about £80k plus VAT. During the adjudication the

Subcontractor claimed the same amount plus the retention being held, a cumulative sum of about £88.5k plus VAT.

On returning to site, by letter dated 9th January 2013 the Main Contractor issued a notice that the Subcontract was terminated. It stated, among other things:

> Following our letter dated 17th October 2012 and your continued failure to comply with your subcontract responsibilities i.e. failure to progress the works in a timely manner, we hereby under NEC3 Contract Section 9 Termination and dispute resolution Clause 90.3 substantially failed to comply with this subcontract (Reason 2) terminate your subcontract works in full. Under the NEC Contract Section 9 Payment on termination 92, Clause 92.2 we intend to deduct all costs incurred by [Main Contractor] in employing a third party to complete your subcontract works.

By letter dated 28th January 2013 the Main Contractor advised the Subcontractor as follows:

> Following our letter of termination dated 9-Jan-13 we attach a summary of your account to date showing the certified claims and potential deductions for LADs and preliminary costs.
> It also shows the contra-charges for four minor items. There is an extra over cost to employ TCL Contracts to complete the reinforced concrete frame which has been deducted. No further payment can be made.

6.6.5.11 *Adjudicator's Determination on the Termination of the Subcontract*

The Subcontractor argued that the Main Contractor had purported to terminate the Subcontract under the incorrect terms (Referral, pp. 4-12). The Subcontract provided (Subcontract, p.1):

> *Conditions: In accordance with [Main Contractor] conditions of Sub-Contract.*

Pre-Subcontract meeting minutes, a Subcontract document, provided (pre-start meeting minutes, item 2.7):

> *Sub Contract Terms & Conditions: The following [Main Contractor] standard sub contract terms and conditions are applicable to the Main Contract for:*
> *NEC3/2005*

The main contract terms and conditions were stated to be in accordance with the standard form NEC3/2005 engineering and construction contract, option c (pre-start meeting minutes, item 1.2). Naturally therefore, the Main Contractor intended that the Subcontract would be in accordance with the associated subcontract terms NEC3/2005 subcontract form, a back-to-back contract arrangement. Consequently,

when terminating the Subcontract, the Main Contractor did so in accordance with the NEC3/2005 provisions.

However, as one can see from the Main Contractor's bespoke terms and the pre-Subcontract meeting minutes, both Subcontract documents they referred to different terms giving rise to a conflict. In the circumstances, the Subcontract provided the solution at Clause 2.2:

> *In the case of any conflict between any of the documents forming part of the subcontract, the following order of precedence shall apply:*
>
> *2.2.1 the Sub-Contract Order*
>
> *2.2.2 these conditions*
>
> *2.2.3 any other documents referred to in the Sub-Contract Order*

Therefore, as the pre-Subcontract meeting minutes fell into sub-clause 2.2.3, the Subcontract terms took precedence. This meant that the Subcontract was based on the Main Contractor's bespoke terms and not the NEC3/2005. Consequently, the Subcontractor argued that the Main Contractor had purported to terminate the Subcontract under the incorrect terms and thereby repudiated the Subcontract.

In response the Main Contractor asserted that, regardless of which terms applied, the termination was plainly under Clause 16.1 of the Subcontract. Therefore, the Main Contractor argued that the Subcontractor was relying, incorrectly, on a technicality (Response, pp. 3-5).

The Adjudicator came to the decision that because the Main Contractor had failed to operate the termination provisions under the correct terms, namely Clause 16.1 of the Subcontract, it could not rely on it as correctly terminating the Subcontract (Decision, p. 22).

The Adjudicator considered that the Subcontractor had failed to progress the works in accordance with its obligations under the Subcontract and was therefore in breach of Subcontract (Decision, p. 23).

At the hearing with the Adjudicator, under cross-examination the Managing Director (*Subcontractor*) said that he could not remember meeting the Contracts Manager (*Main Contractor*) on 19th December 2012; but that if such a meeting did take place he would not have agreed to terminate the Subcontract. Under cross-examination the Contracts Director (*Main Contractor*) disagreed. As I recall, the Contracts Director

(*Main Contractor*) gave a good account of himself and came across as confident, unlike the Managing Director (*Subcontractor*).

The Adjudicator preferred the evidence of the Contracts Director (*Main Contractor*) on the basis that it was more likely that a meeting did take place because of the Main Contractor's concern about the Subcontractor's progress (Decision, pp. 22-24). He also accepted that the Parties agreed that the Subcontract should be terminated (Decision, p. 24). Consequently, even though the Main Contractor operated the incorrect termination provisions, it didn't matter in the end because the Adjudicator decided that the Subcontractor agreed to terminate the Subcontract in any case. The Subcontractor was about half of what it claimed, having successfully argued that the Main Contractor was not entitled to some of the items it had claimed. The remaining half was awarded to the Main Contractor for damages as a result of the termination.

6.6.6 Practitioner's Reflection

As Cheung et al (2016) observe, in a typical subcontractual relationship the Subcontract, as in this case, was formed by an order submitted by the Main Contractor containing, among other things, a scope of work, specifications, plans and bills of quantities for a lump sum price. The terms of the Subcontract were the Main Contractor's own bespoke terms. However, the meeting minutes recorded that the Subcontract terms were those of the NEC3/2005.

During my discussions with the Managing Director (*Subcontractor*) and the Quantity Surveyor (*Subcontractor*) on 15th February 2013 and 6th March 2013, it was clear to me that neither of them had read nor fully understood the Subcontract documents and terms. The Subcontractor's main focus was on pricing the tender and the overall programme requirement i.e. commencement and completion dates. This is a classic example of what Suchman (2003) avers, that to most business people written contracts are simply "…pieces of paper…" used "…in the course of commerce…" to which they "…rarely…" possess a comprehensive understanding of "…the evidentiary implications" (Suchman, 2003, p. 92). It appears that the Subcontractor treated the Subcontract as simply fulfilling "…the requirements of accepted practice…" in the construction industry (Camen et al, 2012, p. 208). In the eyes of Macneil (1980) the

Subcontract functioned as "…no more and no less than the relations among…" the Parties "…to the process of projecting exchange into the future" (Macneil, 1980, p. 4). In similar vein to the Subcontractor, the Main Contractor had not realised the conflict that existed between its own bespoke terms and those of the NEC3/2005. Had there not been a dispute, it is unlikely that the Parties would have known about the error at all. It is without doubt that the Subcontract contained an error caused by the Main Contractor's oversight, which was signed without being carefully read or understood by either party; a situation that Wallace (2004) would have recognised as Subcontract lacking clear thinking and unconsidered draftsmanship.

Judging by the pre-Subcontract meeting minutes, it is clear the Main Contractor intended that the Subcontract terms would be in accordance with the NEC3/2005 standard form of subcontract so that it was back-to-back with the main contract, which was based on the NEC3/2005 main form of contract. The Main Contractor terminating the Subcontractor under the terms of the NEC3/2005 reinforces this view. The Main Contractor did not provide a copy of the terms of the NEC3/2005, they were incorporated by reference, a common practice in the construction industry (Murdoch & Hughes, 2008); however, whether parties actually obtain a copy is another matter. In this case, it would seem that the Main Contractor did acquire a copy for its own use in terminating the Subcontract, albeit it made reference to the incorrect clause in the NEC3/2005 as I explained to it in my letter to the Main Contractor dated 13th March 2013. Whether the Main Contractor obtained a copy for this very purpose alone, is unknown.

The situation that existed between the Parties concerning the correct terms of the Subcontract is echoed in the words of Hughes and Greenwood (1996), when they said that a "…disturbing large proportion of contractors…and subcontractors have very little real understanding of the contracts they are using" (Hughes & Greenwood, 1996, p. 198). Similarly, there are examples from construction case law over 40 years ago where the parties were unclear about the identity of the correct standard form of subcontract that applied *Brightside Kilpatrick Engineering Services Ltd v Mitchell Construction (1973) Ltd* (1975); *Luxair Ltd (In Administrative Receivership) v Edgar W Taylor* (1993).

Even though in the Subcontract it expressly stated that the Main Contractor's bespoke terms were a subcontract document, and a copy formed part of the documents, it is unknown whether the Main Contractor was aware of this. The actions of the Main Contractor in terminating the Subcontract using the NEC3/2005 provisions indicate that it was not. On the other hand, it might have been the case that the meeting minutes should have been listed in the Subcontract above the Main Contractor's bespoke terms, but in error were listed below.

Although not relevant to the Parties' submissions in the adjudication, I noticed when analysing the evidential documents submitted by the Main Contractor that it had a works progress meeting with the Client on 14th November 2012 (Response, p. 96). The Main Contractor stated, among other things, in the meeting minutes:

> Noted that further progress has been lost in the last month, [Main Contractor] considered that was due to a combination of the performance of [Subcontractor] and the original programme being too optimistic. [Main Contractor] will review options to recover programme, but they are not optimistic that the overall period of delay can be recovered.

This indicates that the Main Contractor considered that it was more than probable that the time allowed for the Subcontract works was too short, particularly Stage 1 works. During my discussions with the Managing Director (*Subcontractor*) on 15th February 2013, he advised me that he was reluctant at first to take on the project, because he thought the programme seemed, in his words, 'tight'. Nevertheless, he decided to take it on, I think purely for financial reasons. He remarked that he thought the Main Contractor was in some way at fault for proposing such a programme of works, but he failed to challenge the Main Contractor about this and simply agreed to the programme. This seemed remarkable, bearing in mind that he was the specialist Subcontractor doing the work, thus better placed to know how long it might take. Therefore, the Subcontractor took on the project having agreed to a programme that it suspected was too short; and the Main Contractor had similar doubts about its own programme yet was prepared to accept that the Subcontractor could meet it. It is unknown however, whether the Main Contractor had doubts at the inception of the project, or that this was a matter which came to light later. Either way, in retrospect a recipe for disaster waiting to happen.

Dainty et al (2001) opine that in this type of contractual arrangement, a main contractor is primarily concerned with maximising its profit. This may have been true in this case, but equally true with regard to the Subcontractor. It was perhaps no surprise that such attitudes towards the risks involved in the project would in time turn infect the relationship between the Parties (Tommelein & Ballard, 1998). This was not a situation so often stated by scholars (Akintan & Morledge, 2013; Dainty et al, 2001) that involved the Main Contractor transferring enormous project risk to the Subcontractor. Rather, it was a situation which the Subcontractor (and possibly the Main Contractor) entered in full knowledge that had the potential to leave the Subcontractor struggling to meet the programme, resulting in potential delay (Johansen & Porter, 2003).

The Subcontract arrangement fits the discrete classical contract, a one-off self-contained agreement based on relatively clear legal rules of doctrine and of short duration (Cheung et al, 2006). Brownsword (2000) argues that such contracts encourage parties to exhibit self-interest by, for example, taking advantage of one party's ignorance or exposure to risk. This, according Cullen and Hickman (2012, is a potential source of dispute, often resolved by formal dispute resolution procedures. In this case, it could be argued that both Parties exhibited self-interest from the start. The Subcontractor by accepting a programme that it considered too short and the Main Contractor by acknowledging the risk associated with an overly optimistic programme. Both Parties decisions were thus taken, it would seem, at the expense of jeopordising the successful completion of the project.

6.6.6.1 *Post Subcontract and Adjudication*

Even though the Subcontractor attempted to argue that the Subcontract works were delayed by a combination of a later start to the works, instructed variations and adverse weather, it transpired that the crux of the problem was down to the Subcontractor's own culpability and an over optimistic initial programme.

In view of the Managing Director's (*Subcontractor*) knowledge and belief concerning the programme, it is paradoxical that he was unsure that he possessed a copy when we first met on 15th February 2013; not to mention that the Subcontractor didn't monitor progress of the works on site either. It is clear however that the Subcontractor was aware that the works were in delay and potentially affecting the main contract

works, due to the Main Contractor's communications and the meetings between the Parties. There was no evidence that the Subcontractor ever questioned the Main Contractor, but instead conducted itself in a passive manner.

It would seem that the most important risk factor for both Parties was the programme. Completion of the Subcontract works on time was critical to completion of the main contract works. Subcontractors quite often shoulder an unfair proportion of risk (Akintan & Morledge, 2013); in this case however, both Parties were aware of the risk allocation concerning the programme. In addition, during my discussion with the Managing Director (*Subcontractor*) on 15th February 2013 he advised me that part of the work involved the construction of in-situ reinforced concrete walls, which had to conform to a required standard of finish. He advised me that such work was not his company's forte and was therefore unsure whether it was a good idea to accept the project. Notwithstanding, it was ultimately the Subcontractor who carried the burden of that risk, albeit it with its eyes wide open. Whether this was a situation, often found in subcontractual relationships (Cullen & Hickman, 2012), in which the Main Contractor was able to negotiate advantageous provisions concerning programme is unknown.

In view of the Subcontractor's concern about the programme, and the knowledge of the construction works involved, it seems more likely that the Subcontractor was master of its own fate *Pagnan v Feed Products* (1987). In this case, programme was a major factor that ultimately resulted in dispute (Cole, 2002). In addition, it created a difficult working relationship between the Parties (Hartman, 2003). As is often found in situations like these, inequitable sharing of risk can create mistrust (McDermott et al, 2004), however in this case, there does not appear to have been any initial mistrust between them. Scholars argue that main contractors and subcontractors, under a traditional construction procurement arrangement, do not plan and develop the project programme together once the project is let (Akintan & Morledge, 2013). Furthermore, they argue that this failure to work together leads to incorrect and uncertain duration of critical activities, with the potential for this to result in delays and disputes (Johansen & Porter, 2003). However, in this case the Subcontractor did not have the necessary skill or expertise to produce a programme for its own works, nor the ability or inclination to monitor progress. I say this notwithstanding that there

was no express requirement for the Subcontractor to provide a programme, a point that neither party was aware of. It ultimately took the Main Contractor, in conjunction with the Subcontractor, to produce a revised programme in an effort to address the delay to the Subcontract works.

The Subcontractor's culpability wasn't fleshed out during the adjudication, so what that amounted to is not entirely known. It is reasonable to identify an over optimistic programme as being a major contributory factor; not having the necessary expertise for work to the reinforced concrete walls must have been a further factor that contributed to the delay. Other labour problems and possibly material deliveries might have been further factors, but this is pure speculation on my part.

During my discussion with the Managing Director (*Subcontractor*) on 15th February 2013 he advised me that he did not understand the provisions under which the Main Contractor had terminated the Subcontract. He had never seen the NEC3/2005 form of subcontract and was not minded obtaining a copy; he was totally reliant upon the Main Contractor. For him, this didn't seem to be a concern, only that he wanted paying for his application. As it turned out, in view of the Main Contractor's mistake concerning the termination, the Subcontractor's reliance on the Main Contractor was rather like the blind leading the blind.

Although it has been said that in its theoretical context a Subcontract is designed to fulfill a significant function by its procedures (Rameezdeen & Rajapakse, 2007), there was no evidence to hand that the Parties adopted the same view save for the Main Contractor operating the termination provisions under the NEC3/2005 terms. The Subcontractor failed to operate the terms of either the NEC3/2005 because it didn't possess a copy; or the Main Contractor's bespoke terms, probably because it was unaware that they were the correct terms, although even it if had known it seems very unlikely that it would have used them in any case.

This aligns with the view taken by Hughes and Maeda (2002) in their study to explore respondent's (Clients, Consultants, Main Contractors and subcontractors) views on the Latham (1994) report and construction contract policy in the UK construction industry. They suggested that, in the main, respondents view the function of construction contracts, not for managing the construction process but to protect and enforce parties' interests through legal sanctions. In this case, the Main Contractor, at

least, may have viewed the Subcontract in a similar way, as a potent symbol waiting to be put into practice with the use of the termination provisions (Clegg, 1992). As Mitchell (2009) has postulated, when a dispute arises that requires formal resolution it is usually the case that the contract documents will be the focal point of enquiry into the dispute and its resolution; and so, it was in this case.

The Adjudicator's decision to accept that the Managing Director (*Subcontractor*) had agreed to the Subcontract being terminated at his meeting with the Contracts Manager (*Main Contractor*) on 19th December 2012 remains, for me, controversial. The evidence to support this was somewhat tenuous. The Main Contractor had not mentioned the meeting prior to the adjudication, which given its significance seemed unusual. He was perhaps looking at the dispute more from a merit-based position than simply basing his decision on a technical/legal aspect; the latter being the basis of the Subcontractor's argument and position concerning the termination by the Main Contractor using the incorrect terms. At the time I was appointed in February 2013 by the Subcontractor prior to the adjudication, the Managing Director's (*Subcontractor*) only concern was being paid the December 2012 interim application, not the termination of the Subcontract. The Main Contractor simply withheld the full amount of the application as a consequence of alleged damages it had suffered, and to cover further potential damages due to the termination.

6.6.6.2 *Summary*

In summary, the association between poorly managed risks and disputes is not new (Perry, 1986). Uncertainty at the inception stage of a project and decisions taken will be subject to most risk (Lewis, Cheetham & Carter, 1992). The identification of potential risks is, according to Perry and Hayes (1986), best considered as early as possible in the course of a project in order to control and manage it effectively. It is clear that right from the start the Subcontractor (and possibly the Main Contractor) were aware of the potential risk involved concerning the programme, in particular Section 1 which was a critical element of the Subcontractor's work; a delay to which would cause a direct delay to the main contract works. It is unknown whether the Main Contractor entertained the same doubts at this stage, but it was obviously reliant on the Subcontractor to meet the programme. In addition, the Subcontractor shouldered an additional risk of being able to construct the reinforced concrete walls

to the required standard and still meet the programme dates, unbeknown to the Main Contractor. In the end, such risks proved to be the catalyst for the breakdown in the Parties' relationship and eventual dispute.

The Subcontractor's assertion that the Main Contractor incorrectly terminated the Subcontract using the wrong terms was a technical/legal argument. It proved successful but was to no avail because the Adjudicator considered that the Subcontractor's Managing Director had agreed to have the Subcontract terminated in any case.

The Subcontractor's practice in not considering the terms of the Subcontract is in theory a potentially risky position to take. I was not aware if the Subcontractor had in the past suffered from taking such a position by unknowingly contracting on unfavourable terms, but during my discussions with the Subcontractor's Managing Director he did not seem to be concerned at all. My discussions with the Managing Director (*Subcontractor*) indicated to me that even if he was minded to reviewing the terms of the Subcontract, he would not have understood them. It would seem that he was not even prepared to seek professional assistance concerning such a matter, indicating that the terms of the Subcontract were not that important to him. This situation sits squarely with scholars like Macaulay (1963a) who opined that parties to contract are often hardly aware or not aware at all of its rights and obligations at the moment of the contract formation. Parties often come to understand, usually too late, the contract through communications passing between them. Macaulay (1963a) asserted that, "…many, if not most, exchanges reflect no planning, or only a minimal amount of it, especially concerning legal sanctions and the effect of defective performances. As a result, the opportunity for good faith disputes during the life of the exchange relationship is often present" (Macaulay, 1963a, p. 60).

The Main Contractor's mistake and/or misunderstanding concerning the correct terms of the Subcontract discussed earlier, is not an unknown occurrence in the construction industry. In this instance, such a mistake could have proven fatal to the termination of the Subcontract, because had the Adjudicator not decided that the Subcontractor's Managing Director agreed to have the Subcontract terminated, the Main Contractor would have been held in repudiation of the Subcontract entitling the Subcontractor to claim damages. Although one may put this down to sloppy contract drafting, even if

the terms of NEC3/2005 had applied, the Main Contractor still used the wrong clauses in that subcontract.

A framework for categorising the potential root causes of the dispute relating to the termination of the Subcontract concerning practice-based inquiry 3 is presented (Table 11).

Table 11: Framework for Categorising the Root Cause(s) of the Dispute

Practice-Based Inquiry 3

Termination of the Subcontract			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
1	The Subcontractor took on a project with reservations about whether it could achieve completion of the works in time, specifically Section 1 due to (1) a programme which did not allow sufficient time to complete the works; and (2) taking on work to construct reinforced concrete walls to a particular standard of finish that was not its forte, unbeknown to the Main Contractor.	**(1)** ***Termination of contract*** (Malleson, 2018, 2015, 2013, 2012; Watts & Scrivener, 1993; Hewitt, 1991) **(2)** ***High risk*** (Xiao-Hua et al, 2013; Spittler & Jentzen, 1992) **(3)** ***Self-interest*** (Xiao-Hua et al, 2013; Harris & Arcadis, 2013, 2012;) **(4)** ***Unrealistic expectations*** (Cheung & Yiu, 2006; Bristow & Vasilopoulos, 1995; Rhys-Jones, 1994) **(5)** ***Behaviour/Opportunism*** (Harris & Arcadis, 2013, 2012; Malleson, 2012; Love, Davis & Ellis, 2010; Cheung & Yiu, 2006; Mitropoulas & Howell, 2001)	**Summary** The evidence indicates that the root causes of the dispute was the Subcontractor's failure to meet the extended completion date concerning Phase 1 of the works which necessitated the Main Contractor having to terminate the Subcontract and engage another contractor to complete the works. • ***Self-interest*** • ***Unrealistic expectations***
2	The Main Contractor accepted that the Subcontractor could meet the programme requirements and carry out the works, whilst entertaining its own doubts about the time allowed to complete Section 1 of the works.		
3	The Main Contractor terminated the Subcontract and withheld payment in full against the Subcontractor's interim application for payment to cover its costs of the consequences of the termination.		

6.7 Practice-Based Inquiry – 4

Practice-Based Inquiry – 4 concerns a dispute between a Main Contractor and a Subcontractor regarding the Main Contractor's non-payment of the Subcontractor's final account claim, referred to adjudication for resolution.

6.7.1 The Parties

The Subcontractor is a company that carries out interior fit-outs and refurbishment work in the office, retail and leisure sectors in the UK construction industry. It has over 15 years of experience providing such works. It employs between 10 and 20 people at any one time with a turnover of around £5m.

The Main Contractor is a company that designs and constructs new buildings including refurbishment works in the leisure sector in the UK construction industry. It employs around 10 people and has a turnover of around £10m.

The Main Contractor and the Subcontractor are hereinafter collectively referred to as the Parties. In addition to the Parties, reference is made to other third parties and individuals identified as follows:

- Contracts Manager – (*Subcontractor*) responsible on behalf of the Subcontractor for managing the project from inception to completion, day to day management, planning and appointment of sub-subcontractors and suppliers, and preparing and agreeing interim valuations and the final account (witness statement, pp.1-2).
- Director – (*Main Contractor*) responsible on behalf of the Subcontractor for procurement and production of building the Subcontract, to act as the contracts manager to oversee and ensure the works are carried out efficiently and on time and to budget (witness statement p. 1).
- Solicitor – (*Main Contractor*) responsible on behalf of the Main Contractor for acting on its behalf pre, and during, the adjudication process.
- Project Manager – (*Client*) responsible on behalf of the Client for preparing tender and contract documents, negotiating contracts, preparing, valuing completed work in progress and final accounts.

  NB: This description is based on my own understanding of the Project Manager's duties, as there is no other information or witness statement available.
- Client - the Restaurant (end user) under a main contract with the Main Contract for the provision of the construction of a new Restaurant.
- Adjudicator – an independent third-party person appointed by an authorised adjudicator nominating body responsible for making the decision between the Parties.

6.7.2 Background, The Practitioner's Involvement and Chronology of Events Pre-Adjudication

On 8th December 2014 the Main Contractor invited the Subcontractor to submit a tender for shopfitting works to form a new restaurant. After pre-contractual negotiations an agreement was reached on price and the works that had to be undertaken (**Subcontract**). In addition, it was agreed that the Subcontractor would operate under the pretence that it was part of the Main Contractor's organisation. This was to ensure that the Client under the main contract with the Main Contractor was unaware of the Subcontract agreement, thus believing that the Main Contractor was carrying out the works itself. The project started on 19th January and was completed on 30th March 2015.

Following completion of both the main contract works and the Subcontract works the Contracts Manager (*Subcontractor*) on or about 7th May 2015 agreed the main contract works final account with the Project Manager (*Client*).

Additionally, the Contracts Manager (*Subcontractor*) on 15th May 2015 issued a final account for the Subcontract works to the Director (*Main Contractor*) for agreement. The Director (*Main Contractor*) disagreed with the final account and issued an email and a payment schedule dated 15th May 2015 (**May Email and Schedule**) and requested a credit note from the Subcontractor alleging that it had been overpaid by about £55,753 (the difference between the Subcontract price and the final account).

On 19th May 2015 I was appointed to advise the Subcontractor concerning the final account for the Subcontract. I reviewed the papers provided to me and held a meeting on 27th May 2015 (**May Meeting**) with the Subcontractor to discuss my findings and advice. During my discussions with the Contracts Manager (*Subcontractor*) he advised me that the Main Contractor's request for a credit note came as a surprise because it had not mentioned any such overpayment before. Furthermore, he did not understand what it was for because the Main Contractor had not provided sufficient detail or explanation. Because of the very loose way in which the Subcontract was formed (i.e. there were no express terms, only a bill of quantities, specification, drawings and a couple of emails forming the Subcontract), I explained that the Housing Grants, Construction and Regeneration Act 1996 as amended by the Local

Democracy, Economic Development and Construction Act 2009 (**Construction Act**) was implied into the Subcontract by statute concerning payment and adjudication. This was a matter that he was completely unaware of or fully understood.

In my review of the papers I became aware that the Subcontractor was paid during the project on an interim basis against an invoice. At the May Meeting I asked the Contracts Manager (*Subcontractor*) why he hadn't issued an invoice for payment with the final account, similar to the interim payment applications. He said he thought that having submitted the final account that would be sufficient. I also asked him what information, if any, he received each time an application for payment was made. He advised me that no information was received only payment against each invoice, sometimes in the amount claimed sometimes not and on other occasions in two installments. I therefore advised the Contracts Manager (*Subcontractor*) to raise an invoice and send it to the Main Contractor with a copy of the final account, which he did on 4th June 2015.

Apart from triggering what I understood to be the payment process to ensure that the Subcontractor would be paid, there was an ulterior motive for my advice to send the invoice. I was hoping that following receipt of the invoice the Main Contractor would not issue a payment notice and/or pay less notice in time or at all, which are strict requirements in accordance with the Construction Act. Failure to give such notices in time or at all means that the sum applied for by the Subcontractor would have to be paid. This matter is discussed in more detail under 'The Adjudication'.

During the May Meeting the Subcontractor expressed no desire to meet with the Main Contractor because it considered the final account to be correct and simply wanted to be paid the balance. It is unclear to me whether my advice concerning the potential for the Main Contractor to omit to issue the requisite notices in accordance with the Construction Act had something to do with this position, but the thought of being successful in adjudication on that basis appealed to the Subcontractor.

I was, in the first instance, instructed to write to the Main Contractor setting out the Subcontractor's position. If the matter could not be resolved shortly thereafter I was instructed to refer the matter to adjudication.

Before I wrote to the Main Contractor, the Director (*Main Contractor*) sent an email response on 20th June 2015, following receipt of the Subcontractor's invoice. He said, among other things:

> We have had no correspondence from yourselves regarding the settlement of the final account, the best way to resolve this account would be for us both to sit down and discuss it

During a telephone conversation with the Contracts Manager (*Subcontractor*) shortly thereafter, he advised me again that he had no desire to meet with the Director (*Main Contractor*) and discuss the final account.

I wrote to the Main Contractor dated 23rd June 2015 setting out the Subcontractor's position, by which time it was clear to me that the Main Contractor had not given the requisite notices in accordance with the Construction Act. The letter stated, among other things, that in respect of the Subcontractor's invoice dated 4th June 2015 the Main Contractor had failed to give a payment notice and/or pay less notice in time or at all; consequently, in accordance with current law the Main Contractor was deemed to have agreed the invoice and it must be paid. The letter stipulated a deadline for payment of 29th June 2015 otherwise the matter would be referred to adjudication.

Following receipt of my letter the Director (*Main Contractor*) replied by email on 25th June 2015. He said, among other things:

> We dispute many of your claims in the letter which will come to light when I have had meetings with my solicitor. The works on this project are still subject to costs that we are paying out for and the fact that this is happening with no response from your client we cannot see that the amount you are looking for is at a set amount as there will be various contract charges to your clients account.

By email on 1st July 2015 the Subcontractor received an email from the Director (*Main Contractor*), which was not copied to me. He said, among other things:

> I am arranging a meeting with my solicitor for early next week but before I do that I thought I would give one last offer to meet and settle this over a coffee and talk about the overall debt owed by [Main Contractor] to yourselves.
>
> As previously mentioned we do not dispute that we owe you monies it is the amount that we owe that we dispute. I still think there is a lot we could talk about to settle this in a more friendly way rather than start the expense of professionals. Should you want to have a without prejudice meeting just let me know.

I received a copy of this email from the Contracts Manager (*Subcontractor*) who did not seem interested at the time in meeting the Director (*Main Contractor*). The only express reason given for this was contained in an email from the Contracts Manager (*Subcontractor*) to me. He said, among other things:

> Got this, this morning. The consensus of opinion here is that if we hadn't engaged you to send the letter [my letter dated 23rd June 2015], he would have continued to do nothing, so we don't want to call them to discuss, this is just for your records.

I noted from the Director's (*Main Contractor*) email that he acknowledged that the subcontractor was due further payment, but this was at odds with his May Email and Schedule requesting a credit note

By email dated 1st July 2015 I asked the Contracts Manager (*Subcontractor*) whether a meeting would be a good idea. He replied by email the same day and said:

> A meeting wouldn't do anything, we feel he is panicking and wouldn't have even spoke to us if you hadn't sent him the letter [my letter dated 23rd June 2015]

One aspect that may have played a part in the Subcontractor's decision not to engage in discussion is that during the May Meeting the Contracts Manager (*Subcontractor*) advised me that the Director (*Main Contractor*) called the managing director of the Subcontractor a 'northern monkey' on more than one occasion. Consequently, the managing director may have harbored a grudge against the Director (*Main Contractor*).

On 3rd July 2015 I was formally instructed to prepare the Subcontractor's case for referral to adjudication. During this period, on 9th July 2015 I received a letter from the Solicitor (*Main Contractor*). He said, among other things:

> All [Director's (*Main Contractor*)] invitations to attend [Main Contractor] offices to inspect the relevant documents and to discuss on a professional basis have been ignored.
>
> It is absolutely clear that [Main Contractor] has disputed the final account and that fact has been omitted from your letter of 23rd June. That notice [referring to the May Email and Schedule] may be considered a deemed payment notice.
>
> We suggest that no valid referral or other action would properly be taken by [Subcontractor] as matters stand and the much better course is for our client's representatives to meet and discuss this matter. It is well capable of settlement, particularly after [Director (*Main Contractor*)] email of 1st July. It would be a shame if legal costs were to drive our clients further apart.

No further communications passed between the Parties or its representatives prior to referral of the dispute to adjudication.

6.7.3 The Adjudication

I prepared the Subcontractor's case for referral to adjudication and acted as advocate during the proceedings. Briefly, this involved preparing an initial submission (known as a Referral) setting out the Subcontractor's case together with all the information that we wanted the Adjudicator to consider; this included drafting a witness statement on behalf of the Subcontractor. For example, the submission explained the nature of the dispute and how it arose, it detailed the facts relied upon supported by documentary evidence, it provided details of the Subcontractor and the contractual remedies which were sought and listed the orders that we required the Adjudicator to make.

Adjudication is a non-judicial statutory procedure by which any party to a construction contract has a right to have a dispute decided by an adjudicator. The adjudication process involves an independent adjudicator who makes a relatively quick decision concerning the parties' dispute. The decision of the adjudicator is binding on the parties, unless the dispute is finally determined by legal proceedings or arbitration.

I worked on preparing the Subcontractor's case from about 3rd July 2015 to 17th July 2015 the date the dispute was referred to adjudication. The adjudication proceedings started on 24th July 2015 and were completed with the Adjudicator's Decision on 29th August. The Subcontractor framed the dispute in the following way:

> *A dispute under the Subcontract has arisen between the Parties. It is:*
>
> *c.* [Main Contractor's] *non-payment of* [Subcontractor's] *final account invoice dated 4th June 2015 in the gross sum of £312,619.05 in respect of which the net sum of £48,678 is outstanding together with VAT.*

In essence, the Subcontractor requested the Adjudicator to make a decision that the Main Contractor pay it the full value of its final account.

What follows is my review of the adjudication based on the Parties' written submissions and the Adjudicator's reasons for making his Decision. In the process of doing this, the manner in which the Parties formed the subcontract is discussed and analysed.

During the adjudication process, the Parties made various submissions; reference is made to those submissions identified as follows:

- Referral – The Subcontractor's detail of its case and supporting evidence.
- Response – The Main Contractor's detail of its case in response/defence to the Referral and supporting evidence.
- Reply – The Subcontractor's further submission addressing new points raised in the Response.
- Rejoinder – The Main Contractor's further submission addressing new points raised in the Reply.
- Decision – The Adjudicator's written Decision based on the Parties' written submissions and evidence.

6.7.3.1 *The Subcontract*

On 8th December 2014 the Main Contractor approached the Subcontractor and requested a tender to undertake shop fitting works to the Restaurant, which formed the basis for the Subcontract. The tender enquiry was based on a bill of quantities identifying work elements that covered both the main contract works and the Subcontract works, specifications and architectural drawings. The Subcontractor was requested to price the work elements that were applicable to the Subcontract works. By email on 12th January 2015 the Contracts Manager (*Subcontract*) received an updated bill of quantities from the Director (*Main Contractor*), and was asked to *'…choose which sub con works…'* it wished to carry out.

During the May Meeting the Contracts Manager (*Subcontractor*) advised me that it was the Parties' initial intention to have a subcontractual agreement in the normal way, but the Director (*Main Contractor*) subsequently did not want the Client to know that part of the works would be undertaken by the Subcontractor. Therefore, the Parties agreed that the Subcontractor would project manage the fit-out works as though it was in fact part of the Main Contractor's organisation.

The Director (*Main Contractor*) and the Project Manager (*Client*) agreed a contract for the main contract works (which included the Subcontract work elements) on 15th January 2015. It is interesting to note that during my discussions with the Contracts Manager (*Subcontractor*) at the May Meeting, he did not know what the Subcontract price was for the works. He advised me that it was simply agreed that the

Subcontractor would carry out the applicable work elements in the bill of quantities and claim payment on a two weekly interim basis.

It was during the preparation of the Subcontractor's case for adjudication that I was able to establish in conjunction with the Contracts Manager (*Subcontractor*) that the bill of quantities was finally agreed on 6th February 2015, nearly 3 weeks after the Subcontractor had commenced work on site. However, it was still necessary for me to review the bill of quantities to identify which elements of work the Subcontractor carried out. Prior to my involvement the Subcontractor had not undertaken such an exercise and was unaware of the precise scope of the Subcontract works.

The Subcontractor commenced work on site dated 19th January 2015, having not agreed the Subcontract, and even when the Subcontract was agreed on 6th February 2015 the Parties had not established an overall Subcontract price, instead relying on the prices in the bill of quantities and variations to the scope of works communicated from the Subcontractor to the Main Contractor via claims for interim payment. The Subcontract did not contain any standard terms and conditions.

What happened thereafter is discussed in conjunction with the Parties' submissions in the adjudication and the Adjudicator's determination of the dispute.

6.7.3.2 *Adjudication Proceedings*

It was common ground that following completion of the main contract works, which included the Subcontract works, on 30th March 2015 the Contracts Manager (*Subcontract*) agreed the main contract final account with the Project Manager (*Client*). In addition, the Contracts Manager (*Subcontractor*) simultaneously issued the Subcontract final account to the Director (*Main Contractor*) on 15th May 2015 for agreement.

In reply the Director (*Main Contractor*) submitted the May Email and Schedule, and requested a credit note from the Subcontractor for the sum of £55,753 plus VAT. He said, among other things:

> See attached our latest computations showing the account correction over the 2 jobs, please let us have your credit note for [Subcontract] by return and we will process the payment. By no means does the amounts below constitute a final agreed amount as there may be further costs to us or credits due back to you.

This came as some surprise to the Contracts Manager (*Subcontractor*) because the Director (*Main Contractor*) had not mentioned anything about the Subcontractor having been overpaid before or the amalgamation of the Subcontract with another project (**Second Project**) between the Parties. The Contracts Manager (*Subcontractor*) said in his witness statement (p. 5):

> By email dated 15th May 2015 I replied to [Director (*Main Contractor*)] and explained that [Subcontract] and [Second Project] were different contracts and had to be dealt with separately.

6.7.3.3 *Amalgamation of Two Subcontracts - Main Contractor's Argument*

During the adjudication the Main Contractor in its Response submission argued against the Subcontractor's interpretation of the Subcontract agreement in the Referral. The Main Contractor averred (Response pp. 1-2):

> What [Subcontractor] has fundamentally failed to do is to set out what the Subcontract terms were. On the one hand [Subcontractor] maintains that there was a contractual agreement to start work on 19th January 2015 but on the other they mention that the actual agreement was not reached until 6th February 2015, some 17 days later. Those conflicting statements illustrate [Subcontractor's] difficulty in trying to ignore the true position in relation to the parties' agreement in that the [Subcontract] project was in fact a roller over from the [Second Project].

In relation to the matter of the Subcontract agreement the Director (*Main Contractor*), in his witness statement, said (Witness Statement pp. 2-5):

> These projects [Subcontract and Second Project] were joined together from the start. We discussed both projects together at the time of pricing. I told him [meaning the Contracts Manager (*Subcontractor*)] that we would have to start on site without the agreed bill and that the [Second Project] may have to run into the [Subcontract]. The [Contracts Manager (*Subcontractor*)] agreed to this.
>
> We were working together and as a team and both projects were linked. I specifically remember having a conversation with [Contracts Manager (*Subcontractor*)] about the monies owed together and that [Subcontractor] were interested in working on the next project we were due to start.
>
> On the 18th March 2015 at a site meeting [Contracts Manager (*Subcontractor*)] and I specifically agreed that these projects were linked. I spoke to [Contracts Manager (*Subcontractor*)] about payments and how the projects were and would be linked and he agreed. We discussed how over the two projects [*Subcontractor*] should make an overall profit and [Contracts Manager (*Subcontractor)*] agreed on this.
>
> At one of these [meaning site meetings] on 18th February 2015 we sat and discussed the fact and agreed that both projects were amalgamated in that we could be finished [meaning the Subcontract] before [Second Project] was

> settled and that all would be combined. I would produce the same job cost detailing that I had produced for [Second Project]. [Contracts Manager (*Subcontractor*)] agreed with me that this would be the case.

One of the documents that the Main Contractor relied upon for the argument concerning the amalgamation of the two projects was the May Email and Schedule. In the May Email the Director (*Main Contractor*) said:

> Please see our latest computations showing the account correction over the 2 jobs

In his witness statement the Director (*Main Contractor*) said this concerning the May Email and Schedule:

> Both projects [meaning the Subcontract and the Second Project] were combined as previously agreed, I also mentioned this in my email [meaning May Email and Schedule]. He [meaning the Contracts Manager (*Subcontractor*)] later withdraws this statement in his 15th of May 2015 e-mail where out of the blue he states the two projects are separate
>
> From the tone of his second email I believe where it seems that this is where [Contracts Manager (*Subcontractor*)] is being influenced by another source [meaning me].

It is interesting to note that the Director (*Main Contractor*) thought that I had been influencing or advising the Contracts Manager (*Subcontractor*) to stipulate that the two projects were separate subcontracts. I hadn't been instructed at that time and the Director (*Main Contracto*r) was unaware as to when I was instructed. This means that the Contracts Manager (*Subcontractor*) did consider the two projects to be separate and not amalgamated. In his witness statement the Director (*Main Contractor*) finished by saying (Witness Statement p. 5):

> At all material times myself understood from our agreement with [Contracts Manager (*Subcontractor*)] that the final accounting for both the [Subcontract and the Second Project] would be dealt with as one and we relied on that agreement.

Further, in the Main Contractor's Response submission the Main Contractor said (Response pp. 1-2):

> The parties remained in and confirmed their agreement that the final accounting between the [Parties] on the [Subcontract] would take place when both the [Second Project] and the [Subcontract] projects were finished and finalised with the [Project Manager (*Client*)].
>
> The [Main Contractor] has now finalised what they believe to be the accurate final accounts for both projects as referred to by the [Director (*Main Contractor*)] and they are enclosed herewith.

> The [Main Contractor] submits that the [Second Project] contract terms apply in this dispute and are clearly matters under the contract which are necessarily connected with the dispute.
>
> It is for the [Subcontractor] now to address the [Main Contractor's] final accounts to assist the Adjudicator in concluding matters.

Apart from his understanding that the two contracts were amalgamated as though they represented a single contract, the Director (*Main Contractor*) had undertaken a costing exercise for the Subcontract and the Second Project, the result of which was the May Email and Schedule. What it showed was a deficit of £55,753 over the two contracts. Effectively the Main Contractor had, according to the Director (*Main Contractor*), overpaid the Subcontractor by the deficit amount under the Second Project, which had been completed and agreed. He was attempting to recoup the amount with a request for a credit note against the Subcontract. In other words, the Director (*Main Contractor*) was trying to set-off the alleged overpayment on the Second Project from the Subcontract.

6.7.3.4 *Amalgamation of Two Subcontracts - Subcontractor's Argument*

The Subcontractor argued in the Reply submission that the Subcontract and the Second Project were completely separate agreements (Reply pp 6-8). The documentary evidence for this was greater than the Main Contractor's argument for the two projects being amalgamated. The Subcontractor argued that the only connection between the two projects were the Parties. There was no written evidence that the two were to form one agreement. The Contracts Manager (*Subcontractor*) in his witness statement made it plain that he did not consider the two projects were amalgamated. He said (Witness Statement p. 4):

> Following submission of the [Subcontract] final account the [Director (*Subcontractor*)] sent me an email on 15th May 2015 [meaning the May Email and Schedule]. The email made reference to what the [Director *Main Contractor*)] referred to as *'…account correction over 2 jobs…'*, which is a reference to the [Subcontract and the Second Project]. He then requested a credit note for the [Subcontract] by return. With the email was a schedule [meaning the May Schedule] showing various figures concerning both projects, which I did not understand. I responded by email on 15th May 2015 and explained to him that the two projects were different contracts and had to be dealt with separately.

6.7.3.5 *Amalgamation of Two Subcontracts - Adjudicator's Determination*

The Adjudicator decided that the Subcontract and the Second Project were in fact separate. He said (Decision p. 10):

> [Main Contractor] has not adduced any persuasive evidence that there is a term in the Sub-Contract [meaning the Subcontract] that prevents the Sub-Contract final account being finalised independently of the final account for the [Second Project]. The line of argument is however irrelevant to the current dispute.
>
> [Subcontractor] has not agreed to extend my jurisdiction to include deciding the correct value of the final account for the Sub-Contract [meaning the Restaurant]. Neither have they extended my jurisdiction to include the [Second Project]. I do not have jurisdiction to consider the final accounts adduced in evidence by the [Main Contractor].

6.7.3.6 *Subcontract Work Elements*

As I have previously mentioned above, in order to clarify what the Subcontract work elements were, I had to identify which elements of work the Subcontractor carried out. I did this by marking the relevant elements in the bill of quantities submitted as part of the Referral. The Director (*Main Contractor*) commented on this in his witness statement (p. 3). He said:

> I cannot see where [Subcontractor] sent us the bill of quantities overmarked and for every item shown that he has carried out works there are many he had not previously mentioned. This would be where his final account would be reduced if he had had the decency to meet and mediate.

It is true that the marked bill of quantities was never submitted to the Main Contractor, and there may have been work elements that were not carried out by the Subcontractor. Any confusion however was created by the fact that the Parties did not undertake such an exercise before work commenced or at all thereafter.

6.7.3.7 *Subcontract Final Account Not Received*

One of the arguments the Main Contractor raised was that it never received the invoice and Subcontract final account dated 4th June 2015. I discussed this matter with the Contracts Manager (*Subcontractor*) who was adamant that he sent it by email. Unfortunately, he hadn't kept a record of the email verification which meant that the Subcontractor had no record of having sent it. He confirmed this in his witness statement (p. 6):

> I sent the invoice by email on the 4th June 2015 at about 9am to [Main Contractor] using the [Main Contractor] email account that I was given for the [Subcontract].

One of the issues with this appeared to be that the Contracts Manager (*Subcontractor*) had used an email account set up by the Main Contractor so that the Client was unaware that the Subcontractor was acting independently from the Main Contractor. According to the Contracts Manager (*Subcontractor*) during a discussion with me the account was closed very shortly after he sent the email. He confirmed this in his witness statement (pp. 6-7):

> On 5th June 2015 when I tried to log into the email account, for some reason I could not gain access. I thought nothing of it, just a technical glitch perhaps. On the following Monday 8th June 2015, I could not gain access again, so I telephoned the IT specialist working for the Main Contractor to see what the problem was. The IT specialist explained that the account had been closed and [Subcontractor] would no longer need it.

Although this was confirmed by the Director (*Main Contractor*) in his witness statement (p. 3), he appeared not to believe the Contracts Manager (*Subcontractor*) had ever sent the invoice and final account. He said:

> By coincidence on the weekend of Friday 5th to the 7th of June [Main Contractor] had an upgraded server fitted. Mr [Contracts Manager] was not included on this as our relationship had soured at this point. However, this would not have stopped any emails on 4th June. This to me indicates the skullduggery to which [Subcontractor] will resort to.

In view of this I was tasked with having to prove on balance that the Director (*Main Contractor*) did receive the invoice and final account. This involved researching all the relevant correspondence that passed between the Parties before and after 4th June 2015. I came across a letter dated 24th July 2015 from the Director (*Main Contractor*). He said, among other things: "[Contracts Manager] invoiced us". I wasn't certain which invoice the Director (*Main Contractor*) was referring to because it wasn't identified. Therefore, the Subcontractor simply argued in the Reply submission (Reply, p. 11) that it was the 4th June 2015 invoice. No rebuttal was by the Main Contractor in its submissions, which gave weight to it being the 4th June invoice. In addition, I wrote to the Director (*Main Contractor*) on 23rd June 2015 and made specific reference to the 4th June 2015 invoice and final account having been submitted to the Main Contractor. The Director (*Main Contractor*) replied to my letter by email on 25th June 2015 and I

noted that he did not refer to not having received the information. And in another email from the Director (*Main Contractor*) the same day he said:

> This is not the case as all the money has been paid other than the retentions and a small balance from [Subcontract], not what you have invoiced.

Furthermore, I received a letter from the Solicitor (*Main Contractor*) on 9th July 2015 in reply to my letter of 23rd June 2015 and like the letter from the Director (*Main Contractor*) there was no mention of having not received the invoice and final account. The Adjudicator when dealing with this particular issue decided in favour of the Subcontractor. He said:

> The persuasive evidence adduced by [Subcontractor] has not been satisfactorily addressed by [Main Contractor]. I hereby decide on balance that the June invoice was received by [Main Contractor] on 4 June 2015.

6.7.3.8 *Subcontractor's Principal Argument*

The Subcontractor's principle argument in the adjudication was that having submitted the 4th June Invoice and final account the Main Contractor was obliged to make payment in full, because in breach of the requirements of the Construction Act it had failed to give a payment notice and/or a pay less notice in time or at all.

In support of its argument the Subcontractor set out in the Referral (Referral, pp. 9-11) the relevant procedures and dates concerning payment of the 4th June invoice, which were implied into the Subcontract.

In accordance with the Construction Act (s.110 (1)) the Subcontract terms were required to provide a compliant procedure for determining what and when payments became due. Although the Parties agreed that the Subcontractor could apply for interim payment on a fortnightly basis, there were no other terms concerning payment. Even though the Subcontractor's invoices for interim payment stated a payment due date (not to be confused with the term due date discussed in accordance with the Construction Act) this had not been previously agreed and the Main Contractor did not pay in accordance with that date.

Consequently, the Subcontract was not compliant with the Construction Act (s.110 (1)), which meant that the Scheme Part I – Adjudication and Part II – Payment applied in accordance with the Scheme for Construction Contracts (England and Wales) Regulations 1998 (Amendment) (England) Regulations 2011 (**Scheme**). The

Subcontractor determined that in accordance with the Scheme (paragraphs 4-7) the due date was the 4th June 2015, the date of the invoice.

Once the due date was established, in accordance with the Construction Act (s.110A (1) (a)) the Main Contractor was obliged to give a payment notice to the Subcontractor stating the payment sum it considered was due and how that sum was calculated. Because the Subcontract terms failed to provide for the given of such a notice the Scheme was implied into the Subcontract. The Subcontractor determined that in accordance with the Scheme (paragraph 9 (2)) the Main Contractor had failed to give such a notice by the required date of 11th June 2015 or at all.

One of the requirements concerning payment was that in accordance with the Construction Act (s.110 (1)) there had to be a final date that the Subcontractor would receive payment of the 4th June 2015 invoice. Because the Subcontract terms failed to provide for such a defined date the Scheme was implied into the Subcontract. The Subcontractor determined that in accordance with the Scheme (paragraph 8 (2)) the Main Contractor was obliged to make payment of the invoice by 21st June 2015, which it failed to do.

Once it was established that the Main Contractor failed to give a payment notice the Subcontractor had the opportunity to issue its own, which it failed to do. However, in such circumstances there is a fallback provision in that the 4th June 2015 invoice and final account automatically constitute a payment notice in absence of a payment notice from the Main Contractor provided it satisfies the same payment notice requirements, which it did. This mean that in accordance with the Construction Act (s.111 (2) (a)) the amount claimed became what is known as the notified sum for payment.

In accordance with the Construction Act (s.111 (3)) to avoid the obligation of having to pay part or all of the 4th June 2015 invoice the Main Contractor had to give a notice to pay less than what was claimed. Because the Subcontract terms failed to provide for the giving of such a notice the Scheme was implied into the Subcontract. The Subcontractor determined that in accordance with the Scheme (paragraph 10) the Main Contractor was obliged to give such a notice by 14th June 2015, which it failed to.

6.7.3.9 *Main Contractor's Defence to Subcontractor's Principal Argument*

In the Response (p. 1) the Main Contractor argued:

> Insofar as necessary [Main Contractor] relies on that email and accompanying computations [meaning the May Email and Schedule] as a Payment Notice/Pay Less Notice.

In the Reply (pp. 3-4) the Subcontractor disputed the Main Contractor's argument on two distinct grounds. The first ground was a little tentative:

> [1] It is obvious from the Director's (*Main Contractor*) statement expressly describing the Schedule as *'…our latest computations showing the account correction over 2 jobs…*' that [Main Contractor] carried out an internal exercise concerning the [Subcontract] and the [Other Project] to ascertain whether it had made the necessary profit margin. Having realised there was a shortfall of £55,753 it decided to try and recoup this from [Subcontractor's] final account under the Subcontract. Such an exercise resulting in the production of a Schedule does not make it a valid payment notice and/or pay less notice.

However, the second ground was based on judicial precedent concerning the timing of notices:

> [2] Against the 4th June 2015 invoice and final account [Main Contractor] argues that its email and Schedule dated 15th May 2015 constitutes a valid payment notice and/or pay less notice. Such notices cannot be issued prior to an application for payment. It stands to reasons that even if [the Main Contractor's] email and schedule were in substance and form a valid notice it was issued prematurely and invalid.

On this particular matter the Adjudicator decided in favour of the Subcontract. He said (Decision, pp. 9-10):

> The email dated 15 May 2015 does not conform to the established procedure. Furthermore, it refers to two contracts and does not conform to the requirements of s.110A (2) (a) (i) and (ii) of the Construction Act. The email dated 15 May 2015 is not a valid payment notice.
>
> The June Invoice is a valid payment notice pursuant to s. 110B (4). The purported pay less notice dated 15 May 2015 predates the June invoice. It was decided in [referring to a particular construction case] that a withholding notice [meaning the old name before it became a pay less notice] could not be served before the contractor had submitted his application for payment. Accordingly, the email dated 15 May 2015 cannot be a valid pay less notice in respect of the June invoice.

In conclusion the Adjudicator decided (Decision p. 11) in favour of the Subcontractor. He said:

> I hereby decide that [the Main Contractor] must pay the notified sum [meaning the June Invoice and final account]

6.7.4 Practitioner's Reflection

During my initial meeting with the Contracts Manager (*Subcontractor*) on 27th May 2015, May Meeting, he was unaware that the Construction Act was implied into the subcontract or what material terms were applicable concerning payment and adjudication. It was also clear from the communications that passed between the Parties and me that the Director (*Main Contractor*) including the Solicitor (*Main Contractor*) were likewise unaware. This meant that the Parties acted in complete ignorance of the actual payment procedures that applied to the Subcontract.

Even in ignorance of the compliance of the Construction Act, the Contracts Manager (*Subcontractor*) didn't realise that in order to trigger payment of the Subcontract final account submitted in May 2015 he was required to give an invoice based on the previous dealings concerning interim payment.

It might be said therefore that in ignorance of the implied payment procedures and any express payment procedures in the Subcontract, the parties were unconcerned with this, but instead relied on trust and cooperation (Camen et al, 2012; Roxenhall & Ghauri, 2004) to achieve the intended economic gains from the agreement (Campbell, 2001). The parties certainly had no real understanding of the agreement concerning the payment procedures, they were content with the ad-hoc arrangement in place (Hughes & Greenwood, 1996).

Having submitted the Subcontract final account in May 2015 and the invoice for payment in June 2015 the Subcontractor was not desirous to meet with the Main Contractor in order to negotiate an agreement of the account. The Contracts Manager (*Subcontractor*) was adamant that the account was correct. However, it is unknown whether my advice during our May Meeting (i.e. because the Main Contractor had failed to give a payment notice and/or pay less notice against the invoice and account there was a good chance that it would be successful in receiving payment in full in adjudication), had any influence on the Subcontractor's decision not to meet with the Main Contractor.

I made the Contracts Manager (*Subcontractor*) aware that if it referred the dispute to adjudication an adjudicator would not be required to calculate the true value of the Subcontract Final Account if an adjudicator agreed with my advice about the absence of the requisite payment notices. I remember being aware that this appealed greatly

to the Subcontractor, who perhaps saw what appeared a relatively straightforward way of recovering payment in full. The claim that contracting parties often govern relationships in absence of the contract itself, instead relying on relational norms, might be true in this case (Macaulay, 2003). The Parties' relationship throughout the construction process centered around completing the construction elements in time and payment. The Parties' agreement was, as understood by them, fashioned by a joint desire to achieve the economic ends of the agreement from reciprocal performance, "…underpinned by expectations and norms generated from within the relationship, rather than being imposed externally by the law" (Mitchell, 2009, p. 2). The Subcontract "…concerned with performance, risk and litigation planning…" appeared "…rather remote from the parties' own set of priorities" (Mitchell, 2009, p. 2). No doubt had there been no dispute between the Parties, or had they been able to resolve it amicably, they would have proceeded in ignorance of the implied terms of the Construction Act. It was only when I came on the scene that matters changed. In this regard, the case of *Balmoral Group Limited v Burealis (UK) Limited* (2006) is very apt. A contract dispute arose concerning, among other things, the application of standard terms, in which Clarke J noted that counsel for Balmoral had argued that:

> …there were, in effect two parallel universes: the "real world" in which the parties moved and had their being, and an artificial world created for them by their lawyers when, but only when, a dispute arose. In the real world, as he submits, none of the individuals who were doing business with each other on behalf of Balmoral and Burealis paid any attention to the terms and conditions that the lawyers had drafted for them…It was only when the lawyers came on the scene that the parties were transposed to an artificial world where reliance was placed on standard terms…' *(Balmoral Group Limited v Burealis (UK) Limited*, *2006, Clarke, J, p. 339).*

Being able to secure payment of the Subcontract final account in full by adjudication was more attractive to the Subcontractor than attempting to negotiate with the Main Contractor, which would more than likely have resulted in a compromise agreement resulting in a lower payment. Another factor that influenced the Subcontractor's decision not to meet with the Main Contractor was that in its view until my involvement the Director (*Main Contractor*) had shown scant interest in wanting to meet. However, I was not entirely convinced by this because in the Director's (*Main Contractor*) email response in May 2015 to the Subcontract Final Account he invited

the Contracts Manager (*Subcontractor*) to meet. What didn't sit comfortably with the Contracts Director (*Subcontractor*) was the Director's (*Main Contractor*) request in the same email for a credit note requesting a payment of £55,753. There were further requests made by the Director (*Main Contractor*) to meet with the Contracts Manager (*Subcontractor*) but to no avail. There was a strong feeling that the Subcontractor considered it had the upper hand over the Main Contractor (in reliance on my advice), and its desire to act upon this belief was fueled to a great extent by the derogatory statement made by the Director (*Main Contractor*) about the managing director of the Subcontractor that he was a 'northern monkey'.

It cannot be said that the parties' Subcontract was based on any notion of unfair risk apportionment. The agreement appears to have been as fairly balanced as one could expect. However, there was a potential risk to both parties unbeknown to them until the Construction Act and its implications came to light. This created a situation in which there was the potential for either party with the requisite knowledge to exploit the other party's ignorance of such matters, which the Subcontractor eventually did. (Hughes & Greenwood, 1996). It is fair to say that trust and cooperation governed the Subcontract until the very end when that collapsed over the parties attempt to agree the Subcontract Final Account. There was no evidence of any disagreement or that the relationship had deteriorated until the final account submission. To some extent the Director (*Main Contractor*) confirmed this in his witness statement (witness statement, p. 3), when he said that the relationship had soured at that point being early June 2015.

Amid the Parties' pre-contractual negotiations, it is noteworthy that they paid no attention to having in place express terms and conditions. They concerned themselves only with the Subcontract particulars (drawings, specifications, scope of work and payment). These were matters uppermost in the Parties' minds, not the terms and conditions. Surprisingly, the Parties had not even identified the Subcontract work elements within the bills of quantities or the contract price. The agreement was based primarily on priced bills of quantities, which I used to ascertain a contract price for the purposes of the adjudication. This apparent blasé attitude extended to commencing work on site 3 weeks hence of concluding the Subcontract agreement.

Murdoch and Hughes (2008) articulate that contracts are often entered into on the most informal basis, which is certainly true in this case. Indeed, the Subcontractor was

willing to commence work on site in absence of an agreement or even some form of commercial security, for example, a letter of intent expressing an intention to enter into a contract, and to have the Subcontract apply retrospectively to cover work already undertaken (Wallace, 2004).

A misunderstanding manifested itself whilst the Parties were negotiating the Subcontract agreement but unbeknown to them, until it came to light when agreeing the Subcontract final account. The Director (*Main Contractor*) was of the view that the Subcontract was combined with the Second Project, whereas the Contracts Manager (*Subcontractor*) considered they were separate subcontracts. The evidence to support the Director's (*Main Contractor*) view was effectively non-existent. Evidence did exist of communications passing between the Parties concerning both projects but not in the way argued by the Director (*Main Contractor*). This failure by the Parties to document the agreement was to the Main Contractor's detriment, purely by chance. The reason for this is unknown but may have something to do with the Parties' initial relationship. It either shows there was an element of trust between them or there was careless attention to evidencing the agreement in writing or a mix of the two. It seemed clear to me that the Subcontractor considered the Subcontract was separate from the Second Project and not amalgamated. However, there was a possibility that if the Subcontractor had been overpaid on the Second Project (it would have known about it) it was fully aware that if the two subcontracts were amalgamated as claimed by the Main Contractor such overpayment would probably have had to be repaid.

The uncertainty made the agreement subject to substantial opportunistic behaviour. It seems that the Parties' agreement was based on an understanding of mutual benefits and a cooperative relationship (Rahman & Kumaraswamy, 2002). The concept of mutual benefits means that the Parties were motivated to meet each other's needs. Consequently, it would not have been in either of the Parties' interest to behave opportunistically because that would have potentially been detrimental (Winch, 2000; Thompson, Cox & Anderson, 1998). Trust is considered a lubricant for party commitment in the governance of agreements (Dahlgaard & Dahlgaard, 2003; Morgan & Hunt, 1994). However, trust can be wrecked much easier than it can be performed (Adler, 2001) because it can make betrayal more profitable for the trust breaker (Adler, 2001). The Subcontractor's behaviour in taking advantage of the Main

Contractor's ignorance of the payment procedures under the Subcontractor is a good example of this.

The parties mutually agreed that a Subcontract existed and conducted themselves on that basis but because the agreement was insufficiently recorded this resulted in a disagreement over precisely what terms applied as far as the two projects were concerned. A meeting of the minds in a legal sense between the parties did not exist (Hughes & Greenwood, 1996), albeit each party clearly had its own subjective understanding, at odds with each other, it was distinct from an objective interpretation (Rousseau & Parks, 1993; Macneil, 1985).

6.7.4.1 *Post Subcontract and Adjudication*

During the adjudication the Director (*Main Contractor*) pointed out, correctly, that the Contracts Manager (*Subcontractor*) had highlighted the Subcontract work elements in the bills of quantities. This exercise was carried out on my suggestion in order to clarify and establish the Subcontract price for the purposes of the adjudication. The Director (*Main Contractor*) alluded to various items in the bills of quantities that had not been highlighted as forming the agreed Subcontract price, which in his view the Subcontractor had not carried out. It is unknown to me whether or not the Director (*Main Contractor*) was correct but Contracts Manager (*Subcontractor*) was in no doubt that the Subcontract Final Account represented a true record of the work carried out. An interesting element to the Parties' dispute surrounded the Director's (*Main Contractor*) argument that he never received the Subcontractor's invoice and Subcontract Final Account by email on 4th June 2015. This argument was raised in the adjudication for the first time, despite the fact that I had previously made express reference to them in my letter to the Director (*Main Contractor*) dated 23rd June 2015. In two separate replies to my letter the Director (*Main Contractor*) and the Solicitor (*Main Contractor*) both omitted, for some inexplicable reason, to make reference to them having not been received. This strongly implied that the Director (*Main Contractor*) did receive them but contrived to conceal the truth. Fortunately for the Subcontractor the two replies existed because having submitted them by email he failed to obtain a record of having done so.

The principle argument advanced by the Subcontractor concerning the Main Contractor's failure to give a valid payment notice and/or pay less notice was

successful. However, the argument was based on the fact that the Construction Act and the Scheme were implied obligations regarding payment and adjudication forming part of the Subcontract, initially unbeknown to the Director (*Main Contractor*) and the Solicitor (*Main Contractor*). I, on behalf of the Subcontractor, deliberately set in motion a potential trap taking full advantage of the Main Contractor's ignorance (based on its previous course of dealing) of the payment procedures implied into the Subcontract. A situation created by what might be defined as "…self-interest seeking with guile" (Williamson, 1985, p. 47).

6.7.4.2 *Summary*

In summary, a high level of trust and cooperation existed between the Parties for there to be an arrangement that the Subcontractor agreed with the Main Contractor to keep concealed from the Client the fact that the Subcontractor was not part of the Main Contractor's organisation but acted as though it were (Chalker, Loosemore, Thompson & Hartmann, 2016; Manu, Ankrah, Chinyio & Proverbs, 2015; Tam & Hadikusumo, 2015). The Client did not want another contractor involved in the project other than the Main Contractor. This arrangement worked well throughout the period of the project on site. The Parties exhibited a cooperative arrangement, which benefitted both of them (Yongtao, Xue & Cheung, 2017). "In other words, both parties can gain mutual benefits from each other by treating the other as a long-term partner or teammate" (Yongtao et al, 2017, p. 1; Eom, Kim & Jang, 2015). It is unknown whether the Main Contractor treated the Subcontractor as a long-term partner or just wanted to maintain a short-term relationship, because the Subcontractor possessed specific expertise in fitting out construction work (Chiang, 2009; Dainty et al, 2001).

In reliance on this firm belief in the reliability of the relationship, perhaps this explains the Parties' indifference to the importance of the formation of the Subcontract (having a fully considered and expressed written agreement). Or, it was simply the Parties' carelessness or ignorance of the importance of this, which clearly extended to the Construction Act and its significance and potential implications.

The relationship started to breakdown shortly after the Parties came to settle the final account. It was clear that they had an opposing understanding of what basis the Subcontract formed, single Subcontract or an amalgamation of two subcontracts. The Parties' lack of attention to recording the agreement more carefully resulted in this

misunderstanding. Either party had a vested interest in its own understanding, which may have concealed what each party truthfully thought. The Main Contractor had in its view overpaid the Subcontractor on the Second Project which had been concluded and agreed. Realising its predicament concerning the Subcontract and the risk of losing the adjudication, the Main Contractor attempted to argue that the two Subcontracts were amalgamated in order to recoup the overpayment. The Subcontractor also had a vested interest that the Subcontracts were separate for precisely the opposite reasons. Although, from an objective interpretation the weight of evidence favored there being two Subcontracts, I cannot be certain whether the Parties agreed that the two Subcontracts were in some way amalgamated as the Main Contractor claimed. The Parties may have desired for both of them to have developed their short-term business relationship into a long term one, provided that the Subcontractor's performance and cooperation remained satisfactory (White & Marasini, 2014). However, during the construction process any mutual trust appears to have broken down Aagaard, Eskerod & Madsen, 2015; Araujo, Alencar & Mota, 2015). The Main Contractor was more conciliatory, unlike the Subcontractor who exhibited a hostile self-interest (Chalker et al, 2016).

A particular matter that may have acted as the catalyst perpetuating the dispute was the Director's (*Main Contractor*) disrespectful attitude shown towards the managing director of the Subcontractor. In its belief that it was in a strong position to receive full payment of the final account in adjudication, was attractive to the Subcontractor. Its further belief that the Director (Main Contractor) was feeling vulnerable also appealed to the Subcontractor from the managing director's personal perspective. The embryonic stage at which the dispute started to arise was the Subcontractor's receipt of the May Invoice and Schedule from the Main Contractor. It is conceivable that through negotiations the Parties may have reached a settlement of the Subcontract final account. However, instead of this the Subcontractor sought my professional assistance. I think, on balance, my advice that the Subcontractor would potentially be successful in adjudication appealed to its further decision not to engage in negotiations with the Main Contractor. It resulted in a situation, created by me and to some extent the Solicitor (*Main Contractor*), which brought the implied terms of the Construction Act into existence; whereas the Parties paid no attention to the

Subcontract terms (indeed they were not even aware of them) *Balmoral Group Limited v Burealis (UK) Limited* (2006).

A framework for categorising the potential root causes of dispute relating to the final account concerning practice-based inquiry 4 is presented (Table 12).

Table 12: Framework for Categorising the Root Cause(s) of the Dispute

Practice-Based Inquiry 4

Final Account			
Item	**Contributing Factors to the Dispute**	**Related Source of Potential Dispute from Literature**	**Root Cause(s) of Dispute**
1	The Parties' failure to accurately record the terms of the Subcontract, in particular payment procedures and whether the Subcontract covered one or both projects, which resulted in interpretation problems.	**(1)** ***Subcontract agreement*** (Xiao-Hua et al, 2013) **(2)** ***Contracts*** (Sykes, 1996; Totterdill, 1991) **(3)** ***Contract interpretation*** (Malleson, 2018, 2015, 2013, 2012; Love, Davis & Ellis, 2010; Ohrn & Rogers, 2008; Murdoch & Hughes, 2008; Blake Dawson Waldron, 2006; Heath, Hills & Berry, 1994; Hughes & Greenwood, 1996) **(4)** ***Uncertainty/misunderstanding*** (Love, Davis & Ellis, 2010; Mitropoulas & Howell, 2001; Sykes, 1996; Bristow & Vasilopoulas, 1995) **(5)** ***Self-interest*** (Xiao-Hua et al, 2013; Harris & Arcadis, 2013, 2012;	**<u>Summary</u>** The evidence indicates that the root cause of the dispute was the Parties' failure to accurately record the terms of the Subcontract particularly payment procedures and whether the Subcontract covered one or both projects. • ***Uncertainty/misunderstanding*** • ***Subcontract agreement***
2	The Main Contractor making an untrue statement or argument (potentially) that the Subcontract covered the two projects in order to recover the alleged overpayment via a cumulative final accounting process.		
3	The Subcontractor making an untrue statement or argument (potentially) that the Subcontract covered one project in order to be successful in the adjudication.		

6.8 Synthesis of Practice-Based Inquiries – 1 to 4

Research Method 1 consists of four practice-based inquiries undertaken through a text analysis and reflective process. A synthesis of the potential root causes of the various disputes is presented (Table 13), namely: misunderstanding of contractual obligations; uncertainty in subcontract documents; self-interest; adversarial behaviour; unrealistic expectations; and failure to accurately record subcontract agreement.

The findings from all the practice-based inquiries highlight that the analysis and identification of the root causes of disputes retrospectively is not possible with any certainty. For instance, contributing factors identified in each of the practice-based inquiries show that there may be more than one potential root cause. As an example, practice-based inquiry 4 indicates that the potential root cause was the Parties' failure to accurately record the terms of the subcontract. It is certainly feasible that had they done so a dispute may not have occurred, because a carefully drafted subcontract would in theory have served an important function for the parties i.e. provided a written description of their rights, obligations and responsibilities. This may have prevented the confusion and disagreement concerning the status of the two projects and the payment procedures.

What the data doesn't show however is whether the Parties had in fact reached an agreement concerning the terms of the subcontract, notwithstanding there was no written record of this, which gave rise to opportunism i.e. did the Subcontractor deliberately argue for an interpretation of the subcontract knowing it to be false, because it disadvantaged its potential success in the adjudication? To obfuscate matters further, did the Main Contractor do likewise? Therefore, the dispute may have arisen due to multiple causes; a failure to record the terms of the subcontract; the subcontractor giving a false account; the main contractor giving a false account.

Table 13: Synthesis of the Root Cause(s) of the Disputes

Title	Root Cause(s) of Dispute	Synthesis of Root Cause(s) of Dispute
Practice-Based Inquiry – 1 Variation 9	**Summary** The evidence indicates that the root cause of the dispute was the schematic layout of the sprinkler protection shown on the tender drawings that led to a mutual misunderstanding by the Parties, believing that the tender drawings constituted the full extent of sprinkler protection. In addition, and notwithstanding, the Subcontractor ought reasonably to have investigated more thoroughly the tender drawings, which had it done so would have revealed the need for additional sprinkler protection pre-subcontract. • ***Mutual misunderstanding of contractual obligations;*** • ***Uncertainty in subcontract documents***	**Summary** • ***Misunderstanding of contractual obligations;*** • ***Uncertainty in subcontract documents;*** • ***Self-interest;*** • ***Adversarial behaviour;*** • ***Unrealistic expectations;*** • ***Subcontract agreement***
Practice-Based Inquiry – 1 Variation 11	**Summary** The evidence indicates that the tender drawings showing the ducts/bulkheads (which subsequently became subcontract drawings) changed post subcontract constituting a valid change to the scope of work and thus entitling the Subcontractor to additional payment. The Main Contractor instead of acknowledging this decided to raise what was an unviable argument to avoid having to make additional payment. Consequently, the evidence indicates that the root cause of the dispute was the Main Contractor's adversarial and self-interested behaviour. • ***Self-interest;*** • ***Adversarial behaviour***	

Table 13: (continued)

Title	Root Cause(s) of Dispute	Synthesis of Root Cause(s) of Dispute
Practice-Based Inquiry – 1 Variation 12	**Summary** The evidence indicates that the root cause of the dispute was the schematic layout of the sprinkler protection shown on the tender drawings that led to a mutual misunderstanding by the Parties, believing that the drawings constituted the full extent of sprinkler protection. In addition, and notwithstanding, the Subcontractor out reasonably to have reviewed the scope of work description and raised with the Main Contractor the fact that it included the Hub area. Note: judging by the Electrical Project Manager's (*Main Contractor*) email, it seems fairly certain that the Hub area was originally intended to be an external area not requiring sprinkler protection. This interpretation supports the fact that the schematic layouts were indeed as intended. Unfortunately for the Subcontractor, the description of the scope of work included the Hub area which took priority over the drawings. • ***Mutual misunderstanding of contractual obligations;*** • ***Uncertainty in subcontract documents***	
Practice-Based Inquiry - 2	**Summary** Had the ceilings been raised as the Main Contractor advised the Subcontractor they would be, the variation would not have arisen. The reason for that remained unknown. Notwithstanding, the Main Contractor's behaviour in not acknowledging this or attempting to reach an amicable agreement with the Subcontractor is likely to have been as a result of the Client's unwillingness to accept any potential liability and/or pay the Main Contractor for the variation. Consequently, the evidence indicates that the root cause of the dispute was the Main Contractor's decision to defend the Subcontractor's claim, by fair means or foul. • ***Adversarial behaviour;*** • **Self-interest**	
Practice-Based Inquiry - 3	**Summary** The evidence indicates that the root cause of the dispute was the Subcontractor's failure to meet the extended completion date concerning Phase 1 of the works which necessitated the Main Contractor having to terminate the Subcontract and engage another contractor to complete the works. • ***Self-interest;*** • ***Unrealistic expectations***	
Practice-Based Inquiry - 4	**Summary** The evidence indicates that the root cause of the dispute was the Parties' failure to accurately record the terms of the Subcontract particular payment procedures and whether the Subcontract covered one or both projects. • ***Uncertainty/misunderstanding;*** • ***Subcontract agreement***	

CHAPTER 7 – INTERVIEWS

7.1 Introduction

This chapter presents the findings and discussions from the semi-structured interview transcripts of participants from both main contractor and subcontractor organisations. In total, 16 interviews were conducted; 8 from subcontractor organisations and 8 from main contractor organisations. Participants were chosen from a range of relevant disciplines and positions within the companies, for example: commercial directors, operations directors, project managers, managing quantity surveyors, and commercial managers. The organisations and the participants were known to the Practioner, and were personally invited to participate in the research.

Each interview focused primarily on extracting information from the participants in relation to their views on the potential causes of disputes, and their experiences in relation to the relevance of the subcontract documents in practice.

Firstly, this chapter explains the thematic approach adopted for determining the interview questions and how these were tested during the initial interviews. It then presents the analysis and findings of the interviews for each organisational group, before culminating with a synthesis of the main themes that emerged from the interview findings.

7.2 Thematic Approach

The research study was used as the overriding guide to the areas for interview, specifically the analysis and distillation of the practice-based inquiries and the literature. The choice of questions was centered around the three main characteristics that were found to potentially influence disputes: subcontract agreement, subcontract risk and subcontract procedures.

The Practitioner first broke down the research for each characteristic into possible questions or areas for questions that emerged from the research currently undertaken. Part of this process was to design questions that would potentially have meaning for the participants in order that they would hopefully engage with the Practitioner (Table 14).

Table 14: Possible Questions for Interview

Subcontract Agreement Do parties review subcontracts before starting work on the project? Do parties negotiate and agree changes to subcontract terms before starting work on the project? Do parties read and sign subcontracts? Do parties think subcontracts should be negotiated and explicit and accurately record the agreement? Do parties think subcontracts should be precise in its wording? Do parties think loose contractual terms encourage opportunistic behaviour? Do parties think a fully executed subcontract should be agreed before commencing work on the project? Do parties think good subcontracts are project-specific?
Subcontract Risk Is it necessary for both parties to be fairly protected from risk and why? Should subcontracts should provide mechanisms to protect the financial interest of both parties? Do harsh/punitive terms encourage opportunistic behaviour? Should subcontracts apportion risks equitably between both parties? Are harsh/punitive terms necessary to protect the interest of both parties? Do parties consider harsh/punitive terms should be avoided because they can cause disputes? Do parties think harsh/punitive terms are essential to protect the main contractors interests? Do parties think subcontracts are maliciously drafted by main contractors? What are the primary risks of being in a subcontractual relationship?
Subcontract Procedures Do parties think subcontractual documents are easy to follow and understand? Do parties consider that each party should understand its precise contractual objectives before commencing work on the project? Do parties consider that a good understanding of contractual matters would reduce the incident of problems leading to disputes? Do parties constantly compare what actually happens on the project with what the subcontract prescribes? Do parties adhere to the subcontract terms?
Disputes What types of disputes have the parties been involved with? What do parties think the root causes of disputes are in subcontracts? Do parties think subcontract documents cause disputes? Do parties think that with a subcontract, disputes would be eliminated or reduced?

General
What do parties think are the prime objectives of a subcontract?
Do parties think it is necessary for both parties to gain profits?
Do parties think the prime objective of a subcontract is to maximise the main contractors' profits?
Do parties think the complexity of the construction process demands the use of written subcontracts?
Do parties think the use of subcontracts encourage good performance by the parties?
Do parties think subcontracts should provide mechanisms to protect the financial interest of the parties?
Does each party need a detailed understanding of contract law?

The Practitioner was mindful to avoid leading questions, in order to eliminate potential researcher bias. The use of open-ended questions was used to allow participants to share their experiences to elicit a deeper more personalised response, with the avoidance of jargon and to ensure that language/terms were appropriate to the participants role, experience and level of responsibility. Questions were kept succinct to provide the participant with more time to consider the question and formulate their response.

The type of questions was determined by the open-ended nature of the semi-structured interview method. They were designed to be used as an interview guide that described which characteristics of the research study would be explored during the interview. The Practitioner needed to obtain the participants knowledge, experience, opinions and beliefs concerning the three main characteristics. This would allow the Practitioner the freedom to ask questions spontaneously and to explore the characteristics in more detail. A flexible approach was intended to probe more about the specific characteristics so that the participants might reveal something of interest to the study.

The list of potential questions in Table 14 was distilled and refined into four main questions with two sub-parts for each of the first three. The first three questions related directly to the three main characteristics that potentially influence disputes, and the sub-parts represented the most important aspects that emerged from the previous research concerning each characteristic. The final question was designed to

allow the participants to share any final thoughts or opinions that they felt the need to talk about concerning the root causes of disputes.

7.3 Interview Questions

The Practitioner considered the questions to be suitable, and as such the participant responses from the pilot study were incorporated into the research study. What follows are the final interview questions:

Q 1: Thinking about the subcontract agreement can you tell me your experience or view on?

- whether or not negotiating and agreeing the terms of the subcontract before work starts on the project reduces potential disputes;
- whether or not the way subcontracts are entered into increases or reduces potential disputes.

Q 2: Thinking about risk in subcontracts can you tell me your experience or view on?

- whether or not an imbalance of risk reduces or increases potential disputes;
- whether or not harsh/punitive terms reduces or increases potential disputes.

Q 3: Thinking about subcontract procedures can you tell me your experience or view on?

- whether or not subcontract procedures reduces or increases potential disputes;
- whether or not a lack of understanding of the subcontract procedures or not to apply them increases potential disputes.

Q 4: Thinking about the root causes of disputes can you tell me your experience or view on?

- what you might consider the root causes of disputes are.

7.4 Pilot Study

Frankland and Bloor (1999) asserted that undertaking a pilot study gives "…clear definition of the focus of the study" (Frankland & Bloor, 1999, p. 154). Such a study might also highlight problems that could occur with other aspects of the main research, for instance: data analysis process (Teijingen & Hundley, 2001). Although, a pilot study cannot guarantee the success of the research project (Teijingen & Hundley, 2001), De Vaus (1993) proffers this advice: "Do not take the risk. Pilot test first" (De Vaus, 1993, p. 54).

With this in mind, the Practitioner used the first two interviews (one from each organisational group) to test the suitability of the questions. The main aim was to (1) test the questions against the responses and the interview generally; (2) collect interview data; (3) assess the data analysis techniques to uncover potential problems; (4) identify any logistical problems.

7.5 Interviews

The interviews were conducted at the Participant's offices, and digitally recorded and transcribed by the Practitioner. A semi-structured approach was used, keeping the process sufficiently open and informal to encourage dialogue; each interview was kept to circa 30mins to maintain consistency. Primary details of the participants are shown in no significant order (Table 15).

Table 15: Organisations and Participants in the Study

Organisation	Type of Business	Participants
Sub-contractor 1	Design and installation of fire sprinklers.	• Commercial Director • Contracts Manager
Sub-contractor 2	Civil engineering; groundworks; drainage installation.	• Commercial Director • Operations Director
Sub-contractor 3	Joinery fit out; floor and ceiling finishing.	• Commercial Manager • Operations Director
Sub-contractor 4	Design and installation of roofing, cladding, and facades.	• Commercial Director • Managing Quantity Surveyor
Main Contractor 1	Design and/or build student accommodation; care to residential and housing schemes.	• Senior Commercial Manager • Commercial Director
Main Contractor 2	Design and construction of residential and commercial buildings	• Project Manager
Main Contractor 3	Design and construction of commercial and residential buildings	• Commercial Director • Project Manager
Main Contractor 4	Design and construction of buildings in the commercial, leisure, pharmaceutical, residential and industrial industries	• Operations Director • Managing Director • Commercial Manager

7.6 Interview Data

The data generated by the interviews was examined and coded, focusing on the factors relating to the potential areas leading to disputes between main contractors and subcontractors.

Once all the interview data had been examined and coded, the dispute factors were entered into two tables to show theme distillation across the participants (one for

each organisational group) for further analysis to show the codes organised by recurring theme.

These themes became prime candidates for a set of stable and common categories, which linked a number of associated codes (axial coding). This repetitive process provided a set of broad categories and concepts that described the salient factors associated with the potential areas for disputes.

7.7 Subcontractor Organisations - Interview Findings and Discussion

7.7.1 Introduction

A number of themes emerged from the analysis of the interview data (Table 16). In the main, bespoke subcontracts or a standard form contract with bespoke amendments, are routinely used in subcontracting under a traditional procurement arrangement. The analysis of the data is presented using the categories and subcategories from (Table 16), including verbatim quotations to illustrate and support the analysis.

Table 16: Subcontractor Across Participant Theme Distillation

Emergent Core Category	Subcategory	Theme Distillation	Subcontractor Participants (8 No.)
Subcontract Agreement	Formation	Subcontract too voluminous and complex to fully understand	8
		Pressure from main contractor to accept subcontract with financial penalty	6
		Time to negotiate and agree subcontract before work starts too short	5
		Subcontract not agreed before work starts	3
		Discrepancies in or between documents	3
		A copy of subcontract not received until work starts	1
Subcontract Risk	Terms	Bespoke form of subcontract of standard form amended both in main contractor's favour	4
		Standard form subcontract and/or main contract implied by reference, not provided	1
Subcontract Procedures	Procedures	Reliance on relational norms rather than procedures	8
		Subcontract not consulted or used due to time constraints on site	4
		Procedures not easy to follow and understand	3
		Procedures difficult to apply due to nature of construction – too rigid	3
		Procedures not applied due to fear of appearing contractual	3
		Subcontract used only when disagreement arises	2

Emergent Core Category	Subcategory	Theme Distillation	Subcontractor Participants (8 No.)
People	Behaviour	Not paying or under paying without good reason	8
		Attempt by main contractors to manipulate non-compliance with subcontract procedures to reduce payment	7
		Clash of personalities causing disagreements	4
	Client	Client financial pressure on main contractor filters down to subcontractor	4
	Knowledge	Insufficient expertise in contract law	5
	Management	Failure to record information on site due to time pressure	3
		Poor communication between parties	2

7.8 Interview Analysis

7.8.1 Subcontract Agreement

7.8.1.1 *Formation*

All eight participants considered that subcontracts are generally too voluminous and complex to fully understand from the outset or during the project. In consequence, the participants expressed the view that there was simply not enough time to fully consider the subcontract documents before making a start on site; such matters being left until later or not at all. Wallace (2004) criticised building contracts for their often obscure and unconsidered draftsmanship, which in part may be reflected in the participants responses. For example, the Operations Director of one subcontractor said:

> I once had a job for £25k, and when I walked into the meeting they gave me six lever arch files; that's ridiculous and it makes you think that's a bit heavy handed, you become suspicious.

In a further example, the Operations Manager of another subcontractor said:

> Agreeing the contract before work starts on site, this is not always possible due to time-frames. The main contractor wants you on site asap. The other problem is that the contracts are massive, which is not necessary.

The courts have echoed such sentiments too, for example Judge Thornton in the case *Joinery Plus Limited (In Administration) v Laing Limited* (2003) said, in referring to the subcontract between the parties, that it was a "…compendious bible of documents…" (*Joinery Plus Limited (In Administration) v Laing Limited*, *2003, Thornton, paragraph 31*). And in the case *Fenice Investments Inc v Jerram Falkus Construction Limited and Others* (2009 Judge Coulson said of the subcontract "…the impression…that the

draftsman has included in the contract every piece of paper in his office that related to, no matter how tangentially, to the project in question…" (*Fenice Investments Inc v Jerram Falkus Construction Limited and Others, 2009, paragraph 28).*

Under the doctrine of freedom of contract, the law by and large regards contracting parties "…as masters of their contractual fate…" As such therefore, "It is for the parties to decide whether they wish to be bound and if so, by what terms…" *(Pagnan v Feed Products (1987) Lloyd, p. 619)*. Cullen and Hickman (2012) challenge this position when it comes to subcontractual relationships, they argue that main contractors are able to negotiate advantageous terms, given the high dependency of subcontractors on them for work. This is echoed by the participants with the majority affirming Cullen's and Hickman's view.

Furthermore, they proclaimed that they are routinely pressured (or forced) to accept and sign subcontracts at face value with, in some cases, threats of financial penalties if they refuse. This indicates, as far as the participants were concerned, that in most cases there is a fully documented subcontract in place requiring formal execution. The Commercial Director of one subcontractor organisation said:

> Very often we are requested to agree the subcontract or "you're not going to get the job", or "you won't receive any more tender enquiries". We are put under pressure to sign the subcontract without question.

In another example, the Commercial Director of one subcontractor organisation said:

> They [meaning main contractors] put pressure on us, and all they say is "we've issued the contract and if you don't sign it and return it within so many days, you're not going to get paid.

With reference to this, describing the usual response given by main contractors, he continued by saying:

> And…the biggest thing that I hate is there's always this, "well unless we've got a signed contract, this will have a negative effect on the payment cycle", which is just a cop out.

7.8.2 Subcontract Risk

7.8.2.1 *Terms*

According to McGowan et al (1992) fair risk apportionment is the principal aim of a building contract; it may be detrimental to the party with the greatest risk, resulting in potential disputes (Cullen & Hickman, 2012). Indeed, how project risk is balanced is

considered by many scholars to be a major underlying factor in the cause of disputes (Kaka et al, 2008; Humphreys et al, 2003; Cole, 2002).

Half the participants expressed the view that most subcontracts are bespoke, or a standard form subcontract amended by the main contractor. Either way, the subcontract terms were drafted in the main contractor's favour. The Commercial Director of one subcontractor said:

> There are companies who deliberately insert terms in contracts and force you to sign them.

Another Commercial Director of another subcontractor said:

> The modern trend is for main contractors to put all risk on to the subcontractor whether or not the subcontractor can manage it or not. Then the subcontractor is required to indemnify the main contractor against any loses that it causes. We generally have to accept such terms. Most means of recovering money through terms usually contain caveats like time constraints for notifying the main contractor - time bar clauses.

Forcing subcontractors to adopt such risk is exemplified by the power imbalance between the parties – a David versus Goliath in the construction industry. The subcontract may then be used by main contractors as a stick to beat them with (Djebarni & Hughes, 1994), which is demonstrated by the Commercial Manager of one subcontractor who said:

> Most contracts are either bespoke or a standard form heavily amended. They [meaning main contractors] issue the contract that protects them. They will alter or form their own contract that is heavily weighted in their favour. If you read a contract and think wow that's harsh, you can almost foresee what's going to happen. They are made harsh as a potential stick to beat you with. They alter the contract and make it harsh for the benefit of the main contractor not the subcontractor. There are certain main contractors who will then use the contract against you to reduce your final account.

And the Commercial Director of another subcontractor said:

> If a main contractor is loading their terms and conditions in such a way that or structuring a contract in such a way that it is all in their favour, and not a balanced contract that's an immediate red flag and they're doing that for a reason; because they intend to use it. I'm pre-empting that their intentions are of an aggressive nature. You get a much flaunted JCT form of contract or an NEC contract and then you get 30 pages of amendments. Why? the idea of a standard form contract is a balanced risk between both parties, so if the other party is wanting to say, "this is a standard form contract but here's 30 pages of amendments", I'm saying to myself, "blimey it's not much of a standard form of contract now.

This type of practice is potentially damaging to the parties' relationship. Akintan and Morledge (2013) aver that punitive terms and an imbalance of risk corrodes trust and collaboration between parties. According to Dainty et al (2001), the propensity to transfer unbalanced risk to subcontractors, with little or no capacity to bear such risk, suggests to some scholars that main contractors are not necessarily concerned with developing cooperative relationships (Eriksson et al, 2007). However, according to the views of all eight participants, in the main there is an inherent reliance on relational norms to govern the subcontract (discussed under Subcontract Procedures). But half of the participants articulated that they contracted under punitive terms and an imbalance of risk. It is as though subcontractors are forced into a situation where they are obliged to toe the line in terms of keeping the main contractor satisfied. In other words, they have to trust to the goodwill of the main contractor, or even "…long standing relationships can be terminated the moment there is a failure by the subcontractor" (Akintan & Morledge, 2013, p. 3).

7.8.3 Subcontract Procedures

7.8.3.1 *Procedures*

A lack of knowledge of contract law by parties (discussed under Knowledge), leads some scholars to conclude that it causes parties to adopt a relational governance in fulfilling the contract agreement, based on trust and cooperation (Camen et al, 2012; Roxenhall & Ghauri, 2004). This thinking is not new, for example, Atkin said in the 1920's "Businessmen habitually…trust to luck or the good faith of the other party…" (*Phoenix Ins. Co. Limited v De Monchy,* 1929, Atkin, 439, cited in Summers, 1999). Further support can be found in the work of Macaulay (1963, a, b), Beale & Dugdale (1975) and Bernstein (2001).

All eight participants considered that during the project there was a reliance on having a co-operative and trusting relationship with main contractors to govern the subcontract rather than operating the subcontract procedures.

An example from the Commercial Director of one subcontractor, which accords with Atkin said:

> In a way we are signing subcontracts knowing that we will fail to comply with the procedures in the subcontract. So, we are relying on the goodwill of the main contractor as repeat customers not to penalise us.

And the Commercial Manager of another subcontractor organisation went as far to say:

> I was taught that if you ever have to pick up the contract and read it, it's at that point you start realising things are not good. If you never have to pick the contract up and read it again from the start, good job.

Apart from such an attitude of mind, half the participants regarded time constraints of the design and construction process as the major factor for not adhering to the subcontract procedures – pragmatic necessity. Bennett (1991) considers that because construction projects require pressing action, subcontract procedures are too inflexible and so ignored by the parties. The Commercial Director of one subcontractor organisation said:

> We have these systems and they are there in black and white, and we have both signed up to them, but do we all follow them, no. It's that time driven on site, the construction guys just want to get on with building. Usually things happen after the event and we then have a problem.

A further example, by a Commercial Director of a subcontractor organisation said:

> You try to in practice. In your hand over to the projects department you say, "you must do this and do that, and if you get a delay and there is no information, you must give notice within a certain time, and this is the period you've got". The real world doesn't work like that. That's looking at it in a matter of fact, black and white way, it doesn't happen that way.

An interesting feature of the relational aspect of the participants experience is that it takes place under a subcontractual relationship that mainly falls into the classification of a discrete contract, a one-off agreement (Cheung et al, 2006). This type of subcontract is prone to exhibit self-interested contracting behaviour (Brownsword, 2000), often giving rise to disputes (Cullen & Hickman, 2012). This accords with Macneil's (1978) findings in his studies of business agreements that contracts occur in the context of a social matrix, which has an impact on the way parties operate the contract. The disconfirming effect of the discrete type of subcontract on the cooperative behaviour is noteworthy.

The remaining three main reasons given for the potential cause of disputes were evenly split between the subcontract procedures being difficult to understand and follow or not possible to adhere to due to the physical nature of the construction process on site, and a general fear of appearing what is termed too contractual. Two of the participants asserted that the subcontract was only ever used if an issue or

disagreement arose, to see whether the subcontract could be of assistance to them.

The Commercial Director of one subcontractor said:

> People think that you are a bit contractual if you stop every five minutes and say, "we are not doing work until I get an instruction". It would just stop the flow of the actual work on site. They might decide not to use us on future tenders if that happened. So, we try and keep the main contractor happy by cracking on and negotiating the cost later. It would get in the way of the relationship that you have with the main contractor.

There is a degree to which subcontracts are designed to be used on a regular basis by the parties to govern the relationship (Loosemore, 1994). This is self-evident, as they usually contain terms designed to be operated by the parties as a result of for example, changes that occur on site (changes to the work scope is one such matter that subcontracts incorporate express provision for, known as variation clauses). Nevertheless, the drafting of such terms in subcontracts are not immune from criticism for the amount of procedural content, and often spread among multiple contract documents (Broome & Hayes, 1997). It is hardly surprising that according to Clegg (1992) this scenario is a major cause of confusion and conflict between parties.

This is exemplified by the Operations Director of one subcontractor who said:

> There are too many terms in the contract, and it is too rigid and procedural. You don't have time to read them, even the quantity surveyor from the main contractor hasn't always read them. It's only when you have to. It would help to reduce disputes if the contract was simplified so it was easier for men on site to follow. Contracts are too big and complicated and so the parties just say let's crack on with the project. The people having to deal with contracts are not that way inclined. They don't like to read them, they are practical people. They don't understand it.

It was simultaneously recognised in a study back in the 1960's by Higgin et al (1966, cited in Clegg, 1992) that such procedural content was difficult to adhere to (if not impossible), as a consequence of the physical nature of construction projects.

In their study they found:

> …the characteristics of the formal…' contract '… are so much in conflict with the control functions required to achieve effectiveness in the system of operations that, in practice, the formal…' contract '…cannot be closely followed. Rigid adherence to the procedures of the formal…' contract '…would not be possible, under normal conditions, without unacceptable expenditure – particularly of time. In practice, reality forces recognition of interdependence, uncertainty, phased decision-making, and the continuous application of

> functions. It forces members of the building team to adapt themselves (Higgin et al, 1966, p. 46, cited in Clegg, 1992).

This study is supported by Clegg (1992) in his empirical study of construction projects:

> The idea that the contract documents are a series of instructions, or formally complete and binding rules for constructing a structure from its 'detail' cannot be sustained for long after one has observed a site in progress (Clegg, 1992, p. 132).

Concerning the complication of operating the subcontract procedures experienced by the participants, the Operations Manager of one subcontractor said:

> They are not followed because they are not practical enough. I think they are too prescriptive.

This was similarly echoed by the Contract Manager of one subcontractor who said:

> Sometimes they can be quite difficult to understand because of the volume of information.

This leads to the question: is it possible to run a construction project strictly by the terms of the subcontract? Broome and Hayes (1997) argue that it "…would be at best slow and often impossible" (Broome & Hayes, 1997, p. 256).

7.8.4 People

7.8.4.1 *Behaviour*

A contractual relationship which is essentially relational in nature or has relational traits, paves the way to potentially opportunistic behaviour by the parties (Hughes & Greenwood, 1996). According to Ireland (2004) opportunism is a typical feature in subcontractual relationships. It has been recognised that parties, particularly main contractors, are not always concerned with fostering collaborative relationships (Eriksson et al, 2007). In fact, there is strong evidence that some main contractors see subcontractors as a means to maximise their financial position (Humphreys et al, 2003; Tommelein & Ballard, 1998).

All eight participants agreed that some main contractors would attempt to refuse payment or under pay without good reason. This practice tends to occur when projects are near completion leading towards agreement of the final account. As the Commercial Director of one subcontractor put it:

> Even if we have an agreed schedule of rates and the variation is a very simple process of multiplying the rate by the number of items, they still refuse to value it fully.

When the question of why some main contractors adopt this practice was put to the same participant he said:

> Without doubt criminality. And because they can. And the problem is that we have to comply with instructions for variations, even if they are not valuing them properly – even if there is an agreed procedure and a way of valuing them. They will come up with some tenuous reason for not paying. Taking advantage of a situation. I'm tied in knots with the contract, knowing that I might not receive full payment. When it come to the final account they say, "well you want £20k but we're giving you £5k.

This type of situation, the manipulation of the subcontractor's non-compliance with the subcontract procedures, was advanced by seven of the participants. For instance, the Commercial Manager of one subcontractor said:

> A main contractor doesn't want to reduce their profit margin. And they will fight like hell. Generally, with delays they are never notified until way too late. We don't look at the small items in the contract procedures, we just issue things generally for record purposes. And depending on who the main contractor is, they will try and catch you out with the contract procedures. So that when you come to the final account, they will say, "you didn't do this or didn't do that correctly, so we are not paying you. They will use the contract as a stick to improve their profitability. It's usually when the project is costing the main contractor money they look at us and see what they can claw back through the contract. And if you haven't followed the contract, the main contractor will use it to not pay you.

This practice is echoed by the Commercial Director of another subcontractor who said:

> Projects usually start okay but sometimes they start to get tight, perhaps the main contractors' budget has gone out the window. Then it's how can we [referring the main contractors] claw some of this money back. Let's [referring to the main contractors] look at the subcontract, what did so and so sign up to and potentially what can we not pay them for.

In another example of similar practice exercised by main contractors, the Contract Manager of one subcontractor said:

> They just want to knock the value down, whether or not we have a good case for payment. They will come up with all sorts of reasons for non-payment. Sometimes they can be sneaky in keeping things back until the final account and try and contra-charge us for things, like cleaning and skips

Four of the participants considered that personality clash was a factor that resulted in potential disputes, not necessarily over any particular issue but due to a fundamental incompatibility in a person's personality or their approach to handling issues. Research suggests that personality differences between people can lead to disputes, as they may have diametrically opposed aims and objectives, and values (Leung, Ng & Cheung,

2002; Gardiner & Simmons, 1992). Aggressive and passive personalities of individuals can spark conflict, preventing open and democratic discussion (Fodor, 1976). According to Loosemore (1999) power struggles emerge between parties when an issue arises, which can lead to blames and counter blames (Akintan & Morledge, 2013). This results in a reluctance for parties to accept responsibility and interpretation issues of contractual clauses (Loosemore & Hughes, 1998). For example, the Commercial Director of one subcontractor said:

> If someone on the other side of the fence [meaning a main contractor] doesn't like you, and they have it in for you, they will find some way not to pay you; personality clash. Sometimes it's not the money but down to not liking you.

This view was also held by other participants. The Operations Director of another subcontractor said:

> Disputes occur because of people; personalities. Depending on who you are dealing with you can almost predict problems arising.

Supported by the Operations Manager of another subcontractor who said:

> People can also take it personally if you are asking them for additional money. It's seen as aggressive. Personality can be a cause of dispute. They sometimes have the mentality of don't give money away if you don't have to, even if it is due.

7.8.4.2 *Knowledge*

A lack of rudimentary knowledge in contract law can lead to a subjective understanding of the contractual agreement, not necessarily embedded in objective fact (Rousseau & Parks, 1993). Because, from an objective position, parties may have agreement on payment and a commitment to start work based on subcontract documents, one party's individual perceptions of the contractual agreement may be at odds with the other party (Rousseau & Parks, 1993).

Macneil (1985) argues from his studies of business relationships that most, if not all, contracts are relational, based on subjective understanding by the parties. Farnsworth (2004) believes this subjectivity is caused by the often-inherent fragmentation of contract terms and parties limited understanding of the legalities of the agreement.

Six interview participants considered that they lacked sufficient knowledge in contract law to fully understand the meaning of subcontract terms and related documents, and consequently the implications which may emanate from them. For instance, the Commercial Director of one subcontractor said:

> Contracts are far too wordy, you're then down to interpretation of terminology and wording, and I quite find my interpretation of a clause, how it's written can be subtly different to someone else's. We don't employ lawyers, so unless you've got a company that employs lawyers, it very much depends on the individual's capabilities.

In discussion about the use of subcontracts the Operations Manager of one subcontractor said:

> People don't use them because they are too lengthy and too complicated. I don't think the expertise is there for people to understand the contract.

Similarly, the Operations Director of another subcontractor said:

> Contracts are too big and complicated. They [meaning site personnel i.e. site managers] don't understand it. The main contractor usually knows about certain terms, usually the ones that are harsh, so that he can use it against us. We don't necessarily have the expertise in-house

Regarding the participants, it would not be a correct observation to say that they view subcontract documents simply as "…pieces of paper…' used "…in the course of commerce…" as Suchman (2003, p. 92) has argued. The participants seemed to understand all too well the potential risks involved in entering into contract, even though they acknowledge they do not have, as Suchman (2003) puts it, a "…comprehensive understanding of the evidentiary implications of such documents" (Suchman, 2003, p. 92).

7.8.4.3 *Client*

Interestingly, four of the participants thought that disputes may manifest as a consequence of decisions made by clients, affecting the pricing and programming strategies made by main contractors. They felt that if a main contractor agrees to take on a project with small profit margins this may be a recipe for disaster and a catalyst for disputes occurring with its supply chain; a main contractor will then be looking to maximise its profit from subcontractors. According to Arditi and Chotibhongs (2005) main contractors rely on subcontractors to help reduce their overhead and operating costs on construction projects. To achieve relative success with this, main contractors need to establish durable relationships with select subcontractors. However, if main contractors are having to simply maximise their profit to counteract the financial effect of poor profit margins under the main contract, this will lead to selecting subcontractors on the basis of lowest price, "…and squeeze them tight on price leaving

them struggling to survive" (Akintan & Morledge, 2013, p. 3). This type of scenario inevitably leads to a breakdown of the relationship (Tommelein & Ballard, 1998. Below are examples from participants to illustrate this point.

The Operations Director of one subcontractor said:

> Some disputes are driven from the client who squeezes the main contractor on price and wants the building constructed as quickly as possible which then filters down to the subcontractor.

The Commercial Director thought this matter made disputes unavoidable. He said:

> Disputes are inevitable due to clients not wishing to expend money but wanting a good quality product. Consequently, main contractors start with low margins and need to recoup money from subcontractors.

The Commercial Director of one subcontractor gave a good example of this potential problem when discussing a recent project in which he was involved. He said:

> Disputes can occur from how the client has financed the project. He wants the project finished at a particular time and within a certain budget. This is passed to the main contractor and then to subcontractors. The main contractor may have failed on site but still wants you to complete as planned.

He gave an example of this:

> We have been asked to tender for a job which the main contractor has agreed to complete the main works in 24 weeks. They have stipulated to us 8 weeks for our subcontract works. On a good day that job needs 20 weeks for our works. So we have to think how we can meet the completion date. We have not received any subcontract terms only three drawings, and they want the price and agreement within one week. Then all the documents will arrive later, which may contain things that we didn't know about. It's a big risk and fraught with potential problems.

7.8.4.4 *Management*

Three participants considered that they failed to record vital information concerning onsite activities as potential evidence to support particular events that manifest into disagreements. For example, the Contract Manager of one subcontractor said:

> We had a situation where the pipework installed by others didn't work, we had to carry out modifications. The main contractor instructed us to just make the changes because the project was behind programme. We just got on with the work. What we didn't do was record everything, so we could explain all the work that we did to the main contractor. They just hounded us to do the work. We should have recorded on a daily basis.

In another example, when discussing the procedural aspects of subcontracts on site, the Commercial Manager of another subcontractor said:

> The problem comes with time frames, where for example you look at the JCT standard form, it's very prescriptive with time frames. What doesn't happen is the recording of information.

In a further example, one participant explained that the lack of recording of information leaves you exposed to potential exploitation by main contractors. He said:

> The biggest one that catches you out is recording of events as they happen on site. We had a recent dispute with [name of main contractor]. We had a lot of discussions about a problem that had arisen on site because the information was incorrect and at the end of the process they turned around and said, "well you didn't write to us within the prescribed period of time and so on"

7.8.5 Summary

The findings from the subcontractor participants interviewed suggest a number of common themes that occur frequently, which potentially drive the development of disputes, and have caused disputes either individually or when they are combined.

Subcontracts entered into by the participants are not fully negotiated; few terms are negotiated at all. The participants are often dimly aware of the content of their rights and obligations under the subcontract at the moment of its formation. This situation arises usually because of (1) the volume of information to review; (2) the short time period afforded for such a review before committing to work; (3) lack of rudimentary knowledge of contract law (3); and (4) pressure from the main contractor to sign the subcontract at face value. They may come to understand the content of the subcontract through communications received post subcontract, and if an issue arises. It is not uncommon to find amended terms to standard form subcontracts, or bespoke subcontracts that transpose the risk and obligations to the subcontractor, often the party least capable of carrying that risk. This is made worse by punitive terms designed to limit or eliminate financial recovery due to unforeseen situations i.e. work scope changes, delays etc.

Whilst contractual procedures are designed to establish a communications system (albeit a critical one in some cases) it cannot ensure that parties who are required to adhere to it will use it effectively or at all. For example, the degree to which the participants adhered to contractual procedures is low. It would seem that most of the project communications are informal in nature without recourse to specified contractual procedure. There is a tendency for the contractual procedures to be bypassed, which reduces the importance of contractual terms as an influence upon

problem-solving effectiveness. This shows that contract procedures can encourage parties to act in a specific manner but cannot ensure they do so. This indicates that the participants consider the contract procedures to be of questionable worth in the governance of the agreement, even though they had an underlying awareness they are ultimately legally enforceable. Relational norms play a more explicit role in governing the relationship experienced by the participants.

The relational aspect to the subcontract reflects the motivation for a high level of trust and cooperation, and shows the relationship extends beyond the terms of the subcontract. However, there appears to be an imbalance of power underlying the relational governance. Notwithstanding, delivering projects through trust and cooperation with little recourse to the subcontract procedures appears to be a way of working that the participants consider necessary, almost inevitable because of the formality and inflexibility of the subcontract. It appears however that the cooperation by the participants relies on the fairness of the main contractor's decision-making processes and outcomes. For example, some main contractors' behaviour towards the end of the project by attempting, and in some cases succeeding to reduce payments shows a desire to maximise its financial position at the expense of the subcontractors. This indicates that main contractors who are disposed to such practice show a willingness to maintain a good relationship with subcontractors to secure its cooperation in fulfilling the transaction, until the end of the project that is. This behavioural attitude can cause disputes between the parties through such opportunistic strategies.

A lack of rudimentary knowledge in contract law is something that the participants are acutely aware of, and one area which main contractors may seek to exploit. As a consequence, differences may arise in the parties' perception or interpretation of subcontract terms and risk allocation under the subcontract. In addition, the participants paucity of knowledge will usually mean that they are unaware of the fact that the amended, or bespoke terms, will take effect besides the applicable law of the subcontract. And since subcontracts cannot accommodate every eventuality that might arise on a construction project, whenever problems occur either party may have an interest in seeking as much as they can from the other. Equally, the parties may have a different understanding of the facts.

7.9 Main Contractor Organisations – Interview Findings and Discussion

7.9.1 Introduction

A number of themes emerged from the analysis of the interview data (Table 17). In the main, bespoke subcontracts are routinely used in subcontracting under a traditional procurement arrangement. The analysis of the data is presented using the categories and subcategories from (Table 17), including verbatim quotations to illustrate and support the analysis.

Table 17: Main Contractor Across Participant Theme Distillation

Emergent Core Category	Subcategory	Theme Distillation	Main Contractor Participants (8 No.)
Subcontract Agreement	Formation	Majority of subcontractors accept terms of subcontract without objection	6
		Having an agreed subcontract before work starts potentially reduces disputes	5
		Subcontractors rarely review subcontract terms	5
		Subcontract agreed before work starts	5
		Not essential to have agreed subcontract before work starts for low risk work elements or when a trusting relationship exists	3
		Subcontract documents too voluminous and complex for subcontractor to fully understand	3
		Time to negotiate and agree subcontract before work starts too short	3
		Subcontractor pressured to agree subcontract with or without financial penalty	2
		Discrepancies in or between documents	2
Subcontract Risk	Terms	Subcontract terms balanced equitably between parties	7
		Risk given to appropriate subcontractors	4
		Choice of terms partially determined by main contract	3
Subcontract Procedures	Procedures	Reliance on relational norms rather than procedures	7
		Subcontract not consulted or used due to time constraints on site	6
		Procedures not applied due to fear of appearing contractual	5
		Subcontract used only when disagreement arises	5

Table 17: Continued …

Emergent Core Category	Subcategory	Theme Distillation	Main Contractor Participants (8 No.)
People	Behaviour	Attempt by subcontractors to manipulate non-compliance with subcontract procedures	5
		Contra-charges raised to defend subcontractor claims	2
	Client	Client financial pressure on main contractor filters down to subcontractor	3
	Knowledge	Insufficient expertise in contract law	5
	Claims	Money a major cause of disputes	5

7.10 Interview Analysis

7.10.1 Subcontract Agreement

7.10.1.1 *Formation*

Carnell (2005) asserts that getting it right from the outset requires proper negotiation between the parties to the contract. He points out that contractors often face difficulties once they have committed themselves to starting work, because that is when hazards materialise. This may result in one or both parties obtaining something very different from what they had expected. It is perhaps no surprise that the first, and very often the most important issue in dispute to resolve in a construction dispute, is the interpretation of the contract and its terms (Lewison, 2007; Goff, 1984). For instance, in the construction case *VHE Construction Plc v Alfred McAlpine Construction Limited* (1997) HHJ Bowsher QC remarked that the preliminary issue for determination in this case was whether, "…there [was] a contract between the parties, and if so what were its terms?" He added:

> It is remarkable that this question is probably the most frequent issue raised in the construction industry. On projects involving thousands and sometimes millions of pounds, when a dispute arises about payment, the first issue very often is to decide whether there was a contract and if so what were the terms of the contract, if any. *(VHE Construction Plc v Alfred McAlpine Construction Limited (1997) EWHC TCC 370, HHJ Bowsher QC).*

Five of the participants recognised that having an agreed subcontract before permitting the subcontractor to commence work on site had the potential to reduce the incidence of disputes. And the same number of participants claimed that a subcontract was agreed in the main before work started. For instance, the Commercial

Manager of one main contractor explained why it is important to have an agreed subcontract:

> I won't let a subcontractor start on site without a signed contract first. You can get yourself in to a bit of a hole if you don't have a signed contract, because you end up trying to agree certain aspects whilst the subcontractor is working on site.

This is illustrated further by the Commercial Director of another main contractor. He said:

> Having a negotiated subcontract in place before work starts on site reduces the risk of disputes. A signed subcontract locks everything down, it reduces disputes. For example, we had a dispute with a subcontractor. They didn't sign the subcontract, and we spent quite a lot of time and money on legal fees demonstrating there was a subcontract in place.

Another example illuminates the potential for disputes to arise when parties (in this case the subcontractor) attempt to manipulate a situation when a subcontract is left unagreed after which the parties have committed themselves in a commercial transaction. The Project Manager of one main contractor explained:

> On the current project I'm working on, [name of main contractor] has insisted on going out to tender for each work package regardless of what agreements were in place at the time of tender, and I know with regards to some of key subcontractors our bid was very much dependent on their input. In spite of that one of the golden rules is that we go back out to the market. So that creates a little a bit of tension but what it does it also makes the subcontractors more aware of the terms and conditions that have been imposed on them. And I found it difficult getting the terms and conditions agreed because we were so insistent on going back to back with all the risk. For example, we had a situation where we were desperate to get on site and do the initial piling works, and there were two phases of piling, and it was necessary because of the elongated negotiation period with the client to mobilise the piling rig. We got the piling subcontractor to start on site whilst we were still negotiating terms and conditions. And anybody will tell you that is not a good place to be. So, the longer it goes on the more entrenched they get and the clauses that are unacceptable they eventually get to the point where they're working at risk and so are we because without their agreement we don't know what the outcome will be. The phase 1 piling was complete, but we still hadn't agreed the terms and conditions of the subcontract. The subcontractor left site, further work was necessary, so we asked to remobilise for a return visit, but the subcontractor refused to return until the account was agreed and paid. So, they virtually held us to ransom. So that was one example of the subcontractor exploiting the terms and conditions to their advantage.

Risk apportionment and how risk is managed is considered a major factor in the cause of disputes (Cole, 2002). The preparation of subcontract documents resides with the main contractor (Cheung et al, 2006). This may be viewed as being disadvantageous to subcontractors, because the subcontract is often drafted in favour of the main contractor, resulting in one-sided relationships given the dependence of subcontractors on the main contractor for work (Cullen & Hickman, 2012; Odeyinka & Kelly, 2009). It is plain that a subcontractor has to understand its obligations and must complete the work in a timeframe and manner which will enable the main contractor to perform its obligations under the main contract. In addition, there is also the risk of information failure, as the main contractor is likely to possess greater material knowledge of matters hidden from the subcontractor (e.g. in particular salient subcontract provisions)

With this in mind, it was surprising that in the pre-contractual negotiations leading up to the agreement of a subcontract, six of the participants asserted that the majority of subcontractors do not appear to review subcontract documents but accept them without question. It was felt that the main reason for this was familiarity and trust between the parties, having worked together before. The Operations Director of one main contractor commented:

> Nobody has ever come back with the purchase orders we send out and queried them.

Furthermore, the Commercial Manager of another main contractor added:

> Where we have a good relationship, I feel I could put anything in the subcontract and they wouldn't read it, just sign it, because they trust us. We create a mutual trust and understanding.

Notwithstanding, there are subcontractors (albeit in the minority of cases according to the participants interviewed) that do review subcontract terms and request changes. For instance, the Commercial Director of one main contractor said:

> Most [meaning subcontractors] do accept the terms, but some do like us to change certain terms depending on their own circumstances.

According to the Commercial Director of one main contractor, whether or not a subcontractor reviews the terms of a subcontract depends on how knowledgeable a subcontractor is, and not necessarily how sophisticated the subcontractor may seem. For instance, he explained:

> It depends on the subcontractor's own knowledge. For example, we had a situation where we couldn't find the subcontract for a particular project. So, I contacted the managing director of the subcontractor we often use, big subcontractor £24m turnover, and asked him for a copy of the subcontract. He said he couldn't find it either. He said when we receive the subcontract, we just sign it anyway. Alternatively, we have dealt with much smaller companies and they are very clued up.

As a general rule, a main contractor shoulders any risks in subcontracting work (Murdoch & Hughes, 2008), "The contractual duty of performance rests entirely on the main contractor…" (Murdoch & Hughes, 2008, p. 275). It has been recognised that it is not unusual in the construction industry for parties to fail to draw up and formally execute a subcontract before work starts, and in many cases never at all (Murdoch & Hughes, 2008; *Bovis Construction (Scotland) Limited v Whatlings Construction Limited* (1995)). Not so surprisingly therefore, three of the participants revealed that they did not consider it too important to have an agreed subcontract before a subcontractor started work, if the work element was considered low risk, or there was an existing good relationship between them. They were quite content to agree a subcontract sometime after the subcontractor had been engaged on site. In the words of the Commercial Director of one main contractor:

> I don't think it is essential to reducing disputes because a lot of the time we are using repeat subcontractors. They know and trust us, and we trust them.

However, he did qualify this by stating that it was prudent, where possible, to have an agreed subcontact. He gave this example of a supply contract, but the same issue could arise with a subcontract:

> We had a contract with a door supplier, who was to supply all the doors on a project, for us, but because of the size of the project they had underestimated it and couldn't deliver in time, which delayed us. They kept referring us to their terms and conditions and we were referring them to ours. They thought they were within their rights to do what they were doing, but that didn't tie in with our expectations.

The Project Manager of one main contractor explained that the importance of having a subcontract in place before work starts comes down to risk. In other words, what work is the subcontractor engaged to do, and what are the risks associated with the work being undertaken if a disagreement arises concerning the subcontract. He said:

> It depends on the nature of the subcontract. If you're talking about such as groundworks, masonry packages, steelwork, then it's essential that you have a

> subcontract in place before works starts. If you have the paperwork in place, then I think it can minimise the potential for disputes further down the line. And I don't think any of us pay as much attention to the subcontract as we should.

The Commercial Director of one main contractor echoed the Project Manager's view. He said:

> It depends on what they [meaning subcontractors] are going to do. For example, if it's diamond drilling we need them to go in and bore say three holes, rather than getting them to sign terms and conditions, it's quicker to send them a purchase order. It's not ideal, but to sit down and engage the subcontractor under semi-structured terms and conditions would take us longer to do than the work itself. Anything less than £2K or a one hit job is a purchase order. But anything that's getting over the £2K mark then it does need to be a purchase order with our terms

Subcontracts can be complex, and their meaning is not always clear to the parties (Passera, Haapio & Cutotti, 2014). In addition to the standard terms and conditions, specifications, and drawings etc. it is not unusual for subcontracts to contain informal documentation, which has come into existence at different times. This can be as a result of exchanges of correspondence, tenders, orders, meeting minutes etc., which have passed between the main contractor and subcontractor (Wallace, 2004). The courts have echoed such sentiments too, for example Judge Thornton in the case *Joinery Plus Limited (In Administration) v Laing Limited*, (2003) said, in referring to the subcontract between the parties, that it was a "…compendious bible of documents…" (*Joinery Plus Limited (In Administration) v Laing Limited, (2003), Thornton, paragraph 31).* And in the case *Fenice Investments Inc v Jerram Falkus Construction Limited and Others*, (2009) Judge Coulson said of the subcontract, "…the impression…that the draftsman has included in the contract every piece of paper in his office that related to, no matter how tangentially, to the project in question…" (*Fenice Investments Inc v Jerram Falkus Construction Limited and Others, (2009), paragraph 28).* Highly complicated issues concerning the formation of the subcontract (battle of the forms, etc), are therefore likely to arise and result in dispute in subcontracts. For example, in the construction case *Commercial Management (Investments) Limited v (1) Mitchell Design & Construction Limited (2) Regorco Limited* (2016), the main contractor Mitchell appointed the ground works subcontractor Regorco to carry out ground

treatment works. As a preliminary issue in dispute, the court had to determine which terms and conditions formed the subcontract between the parties.

With this in mind, three of the participants acknowledged that subcontract documents can be too voluminous and complex, which can cause problems when attempting to agree the subcontract before work starts. The Project Manager of one main contractor expressed his views in this way:

> We can bury them [meaning subcontractors] with information, which is all well and good if you have a subcontractor that's used to handling that level of information. Otherwise, they take it on hoping they will be treated fairly.

Subcontract preparation and review take time. Standard core terms and conditions are usually drafted by lawyers for repeat process. However, subcontracts are not crafted by lawyers alone. A wide range of people often participate in their preparation. In complex construction projects in particular, professionals (architect, engineer, main contractor etc.) contribute to scope, specification and drawings, and such like (Cheung & Yiu, 2006). However, three of the participants asserted that pressure to start work on site in order to meet the main contract programme was a major factor, which hampered or in some cases prevented their ability to prepare and review subcontracts and have them agreed before the subcontractor commenced work. The Commercial Director of one main contractor said:

> Day-to-day matters with each subcontractor, the clock is always ticking. There is pressure to get started on site. The subcontractor will have had the subcontract template sent to them, but their response might not be received quick enough for us to be able to check it before we need them to start work on site.

The Commercial Manager of one main contractor held a similar view concerning the problems of attempting to agree subcontracts before works starts:

> The barriers we find to that are generally time scales placed on us by clients, which makes agreeing subcontracts a big challenge.

Likewise, the Project Manager of one main contractor expressed his view by saying:

> The nearer you get to the sharp end of it the more difficult it is for people to spend time on the paperwork to make sure everything is in place before works starts. I don't think there is enough planning goes into the preparation of the subcontract. It's time driven, the client wants to get his recovery as quick as possible.

Despite the necessity and pressure to agree subcontracts before work starts, it was surprising that only two participants acknowledged that they placed pressure on

subcontractors to formally accept them, with or without some form of financial penalty. The Commercial Director of one main contractor said:

> We have sets of condition precedents to payment in the terms, so that payment is dependent on receipt of a signed subcontract.

The participation of a main contractor and subcontractor is governed by subcontract documents, which define the parties' rights, obligations and liabilities. However, "Owners, contractors, designers, and everyone involved in construction readily recognise and are quick to admit publicly the very obvious fact that a perfect set of contract documents simply does not exist" (Hohns, 1979, p. 15). For instance, according to Jaffar, Tharim & Shuib (2011) "All drawings in the contract documents somewhere have mechanical drafting errors…" (Jaffar et al, 2011, p. 198). Moreover, Hall (2000) in his practice as a lawyer in the UK found that, "The larger the project, the more the people, the drawings, the thoughts, and the ideas. Consequently, the larger the project the more errors there are…" (Hall, 2000, p. 139).

Two of the participants considered that subcontract documents often contain errors or discrepancies or ambiguity, which have led to disputes. For instance, the Commercial Director of one main contractor said:

> There is a lot of ambiguity with subcontracts, but that's the nature of the industry. And sometimes you get anomalies in the subcontracts that can give you the wrong impression or misinformation. You become entrenched then in a dispute and it can be difficult to move positions. Everything is always lumped together, which isn't always streamlined and clear, which is probably part of the reason why disputes do happen. I think if we could have clear subcontract agreements in place before work starts would reduce the potential disputes.

7.10.2 Subcontract Risk

7.10.2.1 *Terms*

Whilst main contractors do include punitive terms in subcontracts (Akintan & Morledge, 2013), the participants were of the opinion that they did not exhibit such behaviour. Seven of the participants asserted that the terms of subcontracts they use are drafted fairly and reasonably balanced. The Commercial Director of one main contractor confirmed this:

> We don't amend standard forms. We consider the terms in our bespoke subcontracts are fairly balanced in terms of risk apportionment.

Having an understanding of how risk is allocated to ameliorate situations that might give rise to disputes is crucial to reducing disputes (Cheung & Yiu, 2006). For instance, the Commercial Director of one main contractor explained how risk is often passed to them from the client under the main contract, and how it is usually negotiated and apportioned fairly with particular subcontractors:

> We review risk with subcontractors and take a view. For example, with substructure or drainage packages we have often been boxed into a corner where the client has placed all the risk for the ground to us. So, we try and pass that down to the relevant subcontractors. In the negotiations, we might say, "okay we'll have extra over rates for dealing with unforeseen work such as ground contamination, but you take the risk on programme.

According to Love et al (2011) only focusing on the contract is not an appropriate way to deal with the issue of risk, because of the possibility of competing interpretations by the parties when an issue arises. Two of the participants recognised this. For instance, the Project Manager of one main contractor explained how he used the buildability knowledge of a subcontractor to deal with risk. He said:

> I worked on a large project which was a framework agreement. The way that risk was dealt with was by using the subcontractor's knowledge which we used to input into the subcontract and the design, then we would select very carefully which subcontractor out of a pool would do what.

Dainty et al (2001) argue that main contractors often transfer enormous risk to subcontractors with little or no capacity to handle it. Eriksson et al (2007) suggest this indicates that main contractors are not concerned with developing collaborative relationships. According to Smith (1995), the imbalance of risk is the leading cause of disputes in construction contracts, therefore:

> The ideal contract…is one that assigns each risk to the party that is best equipped to manage and minimise the risk…by assigning each risk addressed in the contract to the party that (1) has a comparative advantage in regard to the risk bearing ability; and (2) has control over the risk (Smith, 1995, p. 45).

According to the majority of the participants they apportioned risk in subcontracts according to which subcontractor was best able to deal with it. For instance, the Commercial Manager of one main contractor said:

> We do try and apportion risk. My view on risk is that it should be apportioned to or managed by the company best placed to manage it. It's no use putting risk with a subcontractor if we think they are not able to manage it, because they will fail and that will lead to dispute.

Similarly, the Project Manager of another main contractor said:

> I think you have to try and balance the risk. That way we can manage the subcontractor far better on site.

Nevertheless, three of the participants discussed how the subcontract terms and provisions are sometimes dictated, to some extent, by the terms of the main contract. For instance, the Commercial Director of one main contractor said:

> We use a bespoke form of subcontract modified for each project, which is a standalone flow down from the main contract. We also use a mini-framework with a select list of subcontractors that we use on a regular basis. This is only amended to catch any flow down terms from the main contract.

Although no example was provided by the participants of the type of provision in a main contract which would necessitate being included in a subcontract, the Practitioner has encountered such terms. In his experience it is not uncommon for instance, to find terms in subcontracts that limit a subcontractors entitlement to an extension of time for delay to the same entitlement afforded to a main contractor under the main contract. Consequently, a subcontractor would only be entitled to an extension of time for delay to the subcontract for the same event under the main contract, and only to the extent that the main contractor receives an extension of time too. Of course, what this fails to appreciate is that a subcontractor may be delayed by a main contractor which has no effect on the main contract, leaving a subcontractor without entitlement to an extension of time.

In one example, the Project Manager explained a situation in which a subcontractor was prepared to accept the risks involved, because the economic transaction was more important. He explained:

> We have other subcontractors like a demolition company who despite the fact that all the risk had been transferred to them, were oblivious of that and we were accepting of the situation because we had worked together in the past, and they thought that the order was more valuable to them than the risk they were taking on. We got the demolition guys into to do some enabling works and then they had to do some major demolition works in advance of when it was planned. It got to the point where we were doing more and more major demolition works whilst we were carrying out other operations on the site. It was becoming quite dangerous because of different trades working in different areas around the site. So, the demolition subcontractor was working uneconomically and that caught up with them because once the job got into further delay, we were asking them to then pull back time to meet the programme because they had signed up to the same terms as us. So, all of a sudden, we are saying to the demolition contractor, look at your agreement you are responsible for the ground conditions and the existing fabric and the

> retention system that we have had to redesign to overcome the problem is your responsibility.

7.10.3 Subcontract Procedures

7.10.3.1 *Procedures*

In construction projects, the relationship between main contractor and subcontractor is distinguished by a high mutual dependency (You, Chen, Wang & Shi, 2018). Therefore, creating an environment of cooperation and trust is seen as an important factor in the reduction of potential disputes (Fenn, 1997; Zack, 1995). Loosemore, Nguyen and Denis (2000) draw special attention to Latham's (1994) recommendations that increased levels of trust reduce disputes.

This was reflected by seven of the participants who asserted that they, along with subcontractors, often adopt informal procedures during the project, rather than revert to the subcontract procedures. According to the participants, building cooperative relationships plays a pivotal role in the non-adherence of contractual procedures. As the participants indicated, once a good relationship is established there exists a certain level of trust and understanding. Informality then becomes the norm to govern the relationship. For instance, the Project Manager of one main contractor said:

> The subcontract gets put to one side as you build a relationship with various subcontractors

Trust and cooperation appear to shift the contractual relationship away from merely a discrete money-for-work transaction. In its place, the subcontract moves toward relational contract, "…one that is characterised by trust, shared commitment, and mutual goals…" (Berger-Walliser et al, 2011, p. 19). The Project Manager of one main contractor concurred. He said:

> Parties have some kind of informal agreement. If we have a good relationship with certain subcontractors, we are more likely to have an informal relationship and forget the subcontract.

Alternatively, according to some participants, where such relationships have not been established there is more of a tendency to revert back to the contractual procedures. For instance, the Commercial Manager of one main contractor explained the difference:

> The subcontractors we don't have a relationship with will just serve a notice. Those that do have a relationship with you don't serve a notice, but will contact you by phone to explain the issue.

According to surveys conducted by Rahim (1983) and Likert and Likert (1976), the results indicated that there was a requirement for parties not to rely so much on procedural rules (contract procedures), but more on inter-personnel communication and micro decision making at site level; thus, increasing relational certainty between parties.

The Operations Director of one main contractor considered that reverting to the subcontract can be detrimental to a good relationship. He explained:

> It breaks down the trust a little bit because you speak to them and get on well and then bang you receive a notice.

However, he also considered it necessary to have some form of written record, such as an email which was seen as more informal and acceptable than a formal contractual notice. he said:

> There's a lot of covering oneself in this game. Everything has to be followed up with an email. If you have a conversation with somebody and you don't follow it up with an email, it's completely worthless. That conversation never happened.

The Commercial Manager of another main contractor shared this view of having some form of written record in place. He said:

> I think that's a good thing because you've got a record. It's a lot easier than having to go back to the contract and issue certain notices. We shouldn't have to read through that much paperwork and jump through hoops. It's better if the subcontractor simply notifies you once a problem occurs by email. And if they need more information, just ask for it.

Pinto, Slevin and English (2009) having investigated 44 large construction projects in Canada between client and main contractor found that the contractors, "…may also make use of contract holes to force extra payments when unexpected events occur, which violates the unwritten, but understood, relational norms" (You et al, 2018, p. 798). In a similar vein, when faced with dealing with problems encountered whilst adopting an informal relationship, in this way would seem to work well according to the participants, provided the relationship does not breakdown. For instance, the Commercial Manager of one main contractor explained how he was exposed by failing to adhere to the subcontract procedures. He said:

> We had an issue that arose with a subcontractor and towards the end of the project they issued a delay notice, so we had them in and talked through the notice. They said they didn't intend to make a claim but were just covering themselves. Towards the end of the project the relationship broke down and they made a claim for an extension of time. However, because we trusted them, we didn't comply with the contract at the time and were exposed.

This is illustrated further by the Commercial Manager of another main contractor who explained the dangers of simply relying on maintaining a good relationship at the expense of not complying with the subcontract procedures. He said:

> We get into this slack situation where we ignore the contract and we think it will be alright and rely on good relationships instead, but when things go wrong we start thinking perhaps we should have followed the contract procedures; we are left exposed.

The Commercial Director of another main contractor reinforced this situation. He said:

> It's essential to try and use it because when it comes down to it, you can have the best relationship in the world, but when somebody is losing money that all goes out of the window. We are then scuppered because we haven't done what we are supposed to do.

It has been recognised in most commercial transactions that, "…too many contracts that are much too long require more reading time than most managers can afford" (Berger-Walliser et al, 2011, p. 2). Notwithstanding the relational aspect adopted by the parties, six of the participants considered time constraints on site to be a major factor in preventing adherence to subcontract procedures. If the procedures were adhered to it would increase the likelihood of potential delay to progress of the works, as the Commercial Director of one main contractor said:

> Contract procedures cause problems, particularly with timescales. For example, variation procedures are too long and cumbersome. Some of the procedures are so strict and so onerous, and in reality, of being on site, you would have to drop everything, but you can't do that. Therefore, the procedures just don't get followed, with the exception of payment. It's very rare to get a subcontractor to comply with such as delay notices etc.

In addition, the Project Manager of another main contractor said:

> I think where it comes unstuck is time pressures and knowing how long it will take to get through the system. People often bypass procedures.

And the Commercial Director echoed this further by saying:

> I think if you followed the subcontract on say variations, we'd probably get some of them done about 3 months after practical completion.

Another important factor faced by main contractors attempting to follow the subcontract procedures, is the added pressure of having to manage multiple subcontractors at any given time. The Project Manager of one main contractor had this say on the matter:

> We strive to follow the procedures but in reality, that's not always possible. Why? I think because you cannot afford the time to follow them. When you have say five subcontractors on site at the same time it's difficult to manage them and try and follow the procedures.

Closely allied to trust and cooperative relationships is the notion of a parties' perception of appearing what is often termed 'contractual' when utilising subcontract procedures. The idea that if a party uses the contractual machinery, for instance, to notify the other party that it is experiencing delay that could affect the completion date, this is taken as an adversarial approach. Five of the participants considered this a barrier to following the subcontract procedures. The Commercial Director of one main contractor explained:

> Some of it is reluctance. I think there is a predisposition that anything contractual must automatically by default be adversarial.

The Commercial Manager of one main contractor explained how those subcontractors who do comply with procedures are not usually in a close relationship with them. He said:

> When a subcontractor does comply and issues a delay notice, it gets perceived in the wrong way. The Subcontractors that do comply with the procedures are those that we don't have a close relationship with, so you perceive that as contractual.

Five of the participants asserted that the subcontract procedures tend to be consulted usually when a disagreement arises. Past scholars considered contracts as a system to protect parties' interests, concentrating on preventing opportunistic behaviour (Williamson, 1985). Subcontracts have many control procedures, such as the main contractors right to vary the scope of work or extend the time for completion of the project (Weber, Mayer & Macher, 2011), supported by appropriate penalties and/or remedies (Gulati, Wohlgezogen & Zhelyazkov, 2012). The Project Manager of one main contractor expressed a strong opinion that the subcontract procedures should only really be used for enforcement of contractual rights. He said:

> The subcontract is something to be only used if an issue arises. It's not something that you should need to keep getting out and reviewing. It's there as a means of enforcement.

In addition, the Commercial Director of another main contractor said:

> If there is a dispute then we would check the subcontract and refer to it. It's better to have an informal relationship rather than trying to follow the subcontract procedures.

Many business people view contracts as a necessary but time-consuming evil (Smith, 1996), "…an administrative burden with which someone must be bothered" (Berger-Walliser et al, 2011, p. 2). The Commercial Manager of one main contractor echoed this view by stating his displeasure at having to refer to the subcontract when a disagreement arises. He said:

> Basically, the contract is usually only used when things go wrong with the relationship. When you have to start referring to the contract, nobody ends up winning. It's a horrible process going through the contract and it takes time.

7.10.4 People

7.10.4.1 *Behaviour*

Despite the majority of participants asserting that they adopt relational norms to govern the subcontract in the main, five of the participants have had situations where subcontractors have taken advantage of the main contractors non-compliance with the subcontract procedures. According to Carmichael (2002) one of the reasons disputes arise is due to people's needs. For example, from both a main contractors perspective and a subcontractors perspective, the needs predominantly concern money or are profit related. And money losses lay the foundations that give rise to people's self-interests becoming a main cause of dispute (Jaffar et al, 2011). In this regard, the Commercial Manager of one main contractor considered that monetary greed and exploitation were a cause of disputes. He said:

> It's not the contract that's the barrier, it's individuals. Greed creates disputes. Where somebody sees an opportunity to exploit something. We have been exploited by subcontractors, who had issued the right notices and we didn't really respond, and it left us exposed.

However, exploitation can work both ways as the Project Manager of one main contractor was candid enough to explain, concerning a common feature that occurs at or near the final account stage of a subcontract. He explained:

> The situation where there might be a subcontract value of say £1m and £100k of variations. The variation account will get matched by £100k of contra charges for late delivery and other things. When the project starts everybody is happy to work together, and then it can get to the point where all of sudden you might have a big hole in your budget. Then you get to the penultimate valuation and monies are withheld because the subcontractor hasn't followed the correct procedures in the subcontract. If we are looking for a scapegoat, we will look at the subcontractor.

It is hardly surprising that main contractors and subcontractors are sometimes opportunistic in circumstances when they are losing money or not making the level of profit envisaged. Indeed, Latham (1994) warned "When contracts are won on a price which can only produce loss for the main contractor [and the subcontractor], the likelihood of a contract dominated by claims, and of disputes between main contractor and subcontractors, is extremely high" (Latham, 1994, p. 59). However, according to Jaffar et al (2011) "Contractors who have made money on a job usually do not invent claims or pursue spurious claims" (Jaffar et al, 2011, p. 200).

7.10.4.2 *Client*

Three of the participants talked about how pressure exerted by clients to reduce margins and commit to tight programme requirements can have a knock-on effect regarding the way in which they engage with subcontractors, as the Commercial Director of one main contractor explained:

> Clients sometimes squeeze us on cost and time, which we then have to do the same to subcontractors. This leaves little room for errors or risk contingencies and can lead to claims and disputes.

Decisions made by clients during the main contract may also have an impact on the relationship between main contractors and subcontractors. For instance, the Project Manager of one main contractor explained:

> Also, decisions or actions by clients can filter down into the subcontract works. For example, late payment which results in us suspending work on site; we have to instruct various subcontractors to also suspend work. This causes problems and often results in claims and disputes. We can't just put subcontractors on a shelf and then take them off again when we are ready to start again.

7.10.4.3 *Knowledge*

In order for parties to understand the meaning of subcontracts and how to operate them, it is plain that they need an understanding of the basic principles of contract

law as a prerequisite. Inadequate knowledge of such matters is often a result of insufficient education, training, and experience (Love et al, 2008). Additionally, people are often reluctant to read subcontracts. They contain concepts and language that non-lawyers find complicated and unclear (Berger-Walliser et al, 2011); as one Commercial Director put it, "When you have to start referring to the contract…It's a horrible process going through the contract…"

In this regard, five of the participants considered they, and in some cases subcontractors, lacked sufficient knowledge in contract law to fully understand the implications concerning subcontracts. For example, the Managing Director of one main contractor said:

> Looking at the bigger value jobs, I don't fully understand the contracts. You've got to have the contract in place because it safeguards everybody. But I do believe sometimes there are people out there who use it to their advantage if they understand it better. You've got to be a lawyer to understand it all.

Consequently, the Commercial Director of another main contractor explained that when an issue arises that requires having to revert to the subcontract, he will take professional advice. He said:

> We may dip into it [meaning the subcontract] for snap shots to keep people focused and to remind them of what they should be doing and what has been agreed. But we don't generally enforce it through the contract mechanisms unless we need to use a specialist for advice.

The Operations Director of one main contractor showed an almost cavalier attitude toward subcontracts by saying:

> Who has the time to read through 60 pages of fully documented contracts, most of it is in legal jargon. You know, what does that actually mean. Just sign it and let's get the job done.

A lack of knowledge can also be a reason for parties' inability to adhere to the subcontract procedures. The Project Manager of one main contractor said, relating to subcontractors:

> Some subcontractors try and follow the subcontract better than others, it depends on the competence of the subcontractor. For example, groundwork subcontractors never follow it. Although most subcontractors report things such as delays, it's usually too late in the day and not in accordance with the subcontract procedures.

Furthermore, the Operations Director of one main contractor gave this example. He said:

> One subcontractor we worked with didn't stick to the payment application dates and payment notices. We sent them the payment schedule about six times, but still they ignored it.

Most construction contracts contain complex and specialist provisions that deal with uncertainties that may occur during a construction project, such as provisions for the award of an extension of time for delay (Beale, 2012). Sykes (1996) argued that disputes emerge from two main sources, construction contracts and unforeseen events, that are interrelated.

The participants interviewed identified a lack of proper knowledge and ability to properly administer subcontracts, and being unable to correctly understand and follow subcontract provisions. Subcontracts are not "…matter-of-factual" (Clegg, 1992, p. 133); they need to be understood by parties. The construction cases *WW Gear Construction Limited v McGee Group Limited* (2010) and *Education 4 Ayshire Limited v South Ayshire Council* (2009) are prime examples concerning disputes that emanate from the fact that the parties did not apply and/or fully understand the contractual notice requirements under each respective contract.

7.10.4.4 *Claims*

Five of the participants considered that disputes emanate from parties having to claim for entitlement to additional money, whether it be for delay damages or changes to the scope of work, and so on. When the pursuit of money becomes the focus of the parties' attention in order to recoup lost or eroded profits, relationships start to breakdown and the potential for disputes arises (Dainty et al, 2001). For instance, the Commercial Director of one main contractor considered money to play a part in the cause of disputes. He said:

> I think money also plays a part because subcontractors are not always sure of the risks involved. And sometimes later into the project, if they have underestimated the risks and start losing money, they look to make claims to recover it.

Additionally, if, for instance, a subcontractor has priced a tender too low, or made a mistake in pricing its tender, the result may be a claim for additional money; as explained by the Commercial Manager of one main contractor:

> If there is not enough money in the job. If you've got say a groundworks package subcontractor who has foolishly thrown themselves on the sword for

> £200K when it should be more like £300K to get the work, or they've messed up or something like that, you are going to end up in a dispute.

In looking at disputes generally, the Commercial Director of one main contractor considered money was the driving factor of disputes, but that the underlying causes were varied. He said:

> Generally, money [referring to the driving factor of disputes]. But the bubbles around that are can the subcontractor do what it planned to do without delay or disruption? Scope of work must be defined and clear, ambiguity can occur. Money drives claims to get it back which leads to disputes. Then people start looking at the subcontract. In most cases the main contractor will rely on the subcontract because they have usually drafted it. Subcontractors tend not to use the subcontract unless they have to.

Focusing on their respective self-interests rather than on mutual interests, inevitably abrades trust in the relationship (Akintan & Morledge, 2013). This is made worse by the perceived notion that a claim is often taken as an adversarial approach, endorsed by the majority of the participants. Akintan and Morledge (2013) argued that parties who act out of self-interest, particularly in traditional procurement, create a typical discrete classical contract arrangement (Cheung & Yiu, 2006), and "…not a relational work relationship…" (Akintan & Morledge, 2013, p. 3). What isn't clear from their view is whether this simply arises once the parties start acting out of self-interest. However, the majority of the participants asserted that they generally adopt relational norms to govern the subcontract, rather than adhere to subcontract procedures. But once a party resorts to the subcontract for the giving of formal notices and the like, the relationship is affected.

7.10.5 Summary

The findings from the interviews suggest a number of common themes that occur frequently, which have the potential to drive the development of a dispute, and have caused disputes either individually or when they are combined.

The majority of the participants declared that they would ensure that a subcontract was agreed before permitting a subcontractor to start work because it created certainty; and as they maintained, reduces the potential for interpretation disputes to arise. Accordingly, it was unexpected that only two of the participants acknowledged that they pressured subcontractors to agree the subcontract. Perhaps this is explained by the fact that the participants often use repeat subcontractors with whom they have

developed a good relationship, resulting in subcontractors who are more amenable to agreeing the subcontract. One participant in particular remarked that he could place any subcontract before subcontractors with whom a trusting relationship had been established, and they would simply agree it without question.

This may also explain why, in the participants view, the majority of subcontractors they encounter do not appear to review the subcontract. Although this may be due to, or may be a contributing factor to subcontractors not possessing the necessary expertise, or time constraints hindering or preventing any such review process from taking place.

It is evident that the pre-contract period leading up to the agreement of the subcontract is weighted heavily in a main contractors favour. A main contractor will usually use its own bespoke subcontract terms and provisions, drafted to predominantly protect its own interest. Consequently, a main contractor will possess greater material knowledge of the documents hidden from the subcontractor, particularly if a subcontractor does not care to review them. However, the majority of the participants declared that the subcontracts they use were equitably drafted and balanced between them and the subcontractor, although this remains unsubstantiated.

Curiously, about a third of the participants considered it unnecessary to have an agreed subcontract established before permitting a subcontractor to start work if they deemed the work package low risk. There was a feeling among the participants that the greater the risk associated with subcontracted work, the greater the potential for disputes; or more serious disputes if a subcontract was not agreed, unlike low risk subcontracted work which they viewed the other way.

The majority of participants gave the clear impression that a fair balance of risk was essential to the successful completion of subcontracted work. Subcontractors best suited to understand and manage risk were considered the proper way to apportion risk. No indication was given that it was appropriate to simply pass risk unfairly to subcontractors, quite the reverse; a logical and believable viewpoint given the dependency of main contractors on subcontractors completing its work successfully.

The findings indicate that the majority of participants are socially embedded in ongoing relationships with subcontractors as a result of relational experiences that

had developed over time, to the extent that an inter-business trust and cooperation had been established. This was considered important because the parties tended to adopt informal procedures to govern the subcontractual relationship, rather than adherence to the subcontract procedures.

Factors that seem to influence what might be termed 'trust development' are time constraints on site, hindering or preventing adherence to the procedures, and concern of appearing contractual, adversely affecting the relationship. A subcontract was therefore viewed as a safeguard symbol of enforcement of contractual rights, if and when necessary, but not something to be used for governing the relationship necessarily.

However, the trust-based contractual governance seems to give rise to the potential for opportunistic behaviour. The majority of the participants have experienced situations in which they have been exploited by subcontractors for not complying with contractual procedures. This admission indicates, for those subcontractors who have exhibited such behaviour, an understanding of contractual procedures in order to place themselves in this advantageous position. In addition, reliance on relational norms to govern the subcontract at the expense of having the knowledge, or awareness of the effects of the written subcontract may generate disputes. For instance, when an issue arises which involves recourse to the subcontract documents, this often leads to disputes about what can become a distorted picture of the contractual relationship with the documents – when legal (the subcontract) and non-legal (relational norms) sanctions collide.

The majority of the participants acknowledged that they did not have sufficient knowledge in rudimentary contract law, when it came to understand the terms and conditions of subcontracts. This may often be the cause of disputes, because when an issue arises that requires resolution (pre-dispute) parties' knowledge when dealing with each other is important; special skills and knowledge are often required, hence the need for lawyers to advise and assist parties.

7.11 Synthesis of Main Contractor/Subcontractor Interview Findings

7.11.1 Subcontract Agreement

7.11.1.1 *Formation*

There was considerable variance between the views of the main contractors and subcontractors regarding the significance of having an agreed subcontract in place before the subcontractor commenced work. The majority of the main contractors considered that this would potentially reduce disputes because it created contractual certainty; by stark contrast, none of the subcontractors expressed the view that this was significant. The data does not reveal why there was such divergence of attitude on this point between the two groups.

The majority of the main contractors insist on the signing of subcontract documents before work commences, but only two admitted to pressuring subcontractors to do this. In contrast, the majority of subcontractors stated that they were pressurised to accept subcontracts at face value, in some cases with threats of financial penalties for failing to do so.

The majority of the subcontractors have insufficient knowledge of rudimentary contract law, often believing that a contract is not agreed unless it is signed. Just under half of the subcontractors said that they often commence work without a signed subcontract, but in reality they may have inadvertently agreed a subcontract 'by conduct'.

Most of the main contractors were of the view that the majority of subcontractors simply sign or accept subcontract documents without objection. Familiarity and trust between parties having worked together previously, was considered the main reason for this. However, in cases where parties have not worked together before, insufficient time and contracts being too voluminous and complex were cited as reasons by the majority of the subcontractors, and just under half of the main contractors.

7.11.2 Subcontract Risk

7.11.2.1 *Terms*

Half the subcontractors felt that subcontract documents were drafted heavily in favour of main contractors, creating an imbalance in risk. They felt this had the potential to create an adversarial relationship, because the terms were risk-transferring and defensive, rather than risk-apportioning and proactive. On the

contrary, the majority of main contractors considered its terms and conditions to be balanced equitably between the parties. Half also felt risk was appropriately on a 'best able to manage' basis because it was not in either party's interest to do otherwise.

Just under half of the main contractors stated that they were obliged to incorporate into subcontracts special project requirements mandated by the client, which dictates some of the terms and provisions included in subcontracts. This presents as another reason why half of the subcontractors view the terms as harsh and in favour of main contractors.

7.11.3 Subcontract Procedures

7.11.3.1 *Procedures*

Both the main contractors and subcontractor were fully aware that the subcontract specifies the roles, rights, obligations and relationship between them, but every subcontractor and every main contractor save for one, relied predominantly on relational norms to govern the relationship, not subcontract procedures. In other words, the effectiveness of the relationship depends on goodwill and on the desire of the parties for collaborative relationships.

However, the reason for not adhering to subcontract procedures was also mixed with additional factors. The majority of the main contractors and half of the subcontractors felt that the speed of construction processes did not afford sufficient time on projects for subcontracts to be adhered to. Most of the main contractors and just under half of the subcontractors felt that not wanting to appear contractual, because it potentially affected their relationships, was another factor which prevented the application of subcontract procedures; preferring instead to adopt a more informal approach. Finally, just under half of the subcontractors said they struggle to understand and follow subcontract procedures, due to the nature of construction projects. The procedures were considered too inflexible and impractical. However, over half of the main contractors said they consult the subcontract when a disagreement arises, whereas only a small number of subcontractors do likewise.

7.11.4 People

7.11.4.1 *Behaviour, Client, Knowledge, Claims, Management:*

Despite the majority of both the main contractors and subcontractors adopting relational norms to govern their relationships, the majority of the subcontractors

stated that main contractors attempt to manipulate their non-compliance with subcontract procedures to reduce payment. Conversely, just over half of the main contractors identified that subcontractors attempt to manipulate their non-compliance with subcontract procedures in advancing claims for extra time or money. It would seem that where an opportunity exists for either party to take advantage of the other party's reliance on relational norms, at the expense of adhering to subcontract procedures or ignorance, they are prepared to take it despite any pre-existing good relationship between them. It would appear this is motivated by a need to recoup financial losses. Just under half of the main contractors and subcontractors acknowledged that adversarial relationships are driven by tight profit margins. In addition, half of the main contractors simply viewed money as a general driver of disputes.

The subcontractors all identified payment practices as one of the main sources of conflict between the parties. All the subcontractors claimed to have experienced some form of payment delay, underpayment or non-payment from main contractors; not linked to any fault on the part of the subcontractor. A particular practice identified, which seemed to be project-specific decisions determined by certain personnel (typically quantity surveyors or commercial directors), was not making payment or reducing payment at the final account stage of projects. Only a minority of the main contractors acknowledged that they often raised some form of defence to avoid making payment to subcontractors, typically in the form of contra-charges equal to or in excess of the amount being claimed by a subcontractor. This practice may be as a result of project finances being ring-fenced, and therefore reducing payment to subcontractors might positively affect the main contractors profit margins.

Half of the main contractors and subcontractors knowledge of rudimentary contract law is weak, which affected their ability to fully understand the terms and provisions of subcontracts and how to administer them properly. This lack of knowledge can of course lead to disputes emanating from parties' misunderstanding of subcontract terms and procedures.

Just under half of the subcontractors viewed clash of personalities as a source of potential conflict, whereas none of the main contractors raised this as a cause of disputes.

7.12 Subjectivity

Construction projects are complex in nature, and so it is inevitable that subcontract documents which govern the relationship are by and large complicated too. The research study findings have shown that common sources of disputes are partly related to contractual matters – interpretations about terms and conditions of the subcontract, misunderstandings, and uncertainties of role responsibilities, etc. Unfortunately, the ideal set of subcontract documents does not exist.

In the context of disputes, the parties' obligations and relationship are regulated by the subcontract and the law, and it is this governance environment which gives rise to subjectivity in which disputes arise. Consequently, there is a subjective element to the development of disputes which is grounded in parties' understanding of the subcontract documents. As such, subcontracts are characterised by parties' perceptions, interpretations and sense making, and strong emotive reactions.

How individuals perceive, interpret and experience subcontracts is therefore an important factor that contributes to the problem of disputes. The research findings have shown that subcontracts are interpretable by parties only in the context in which they are embedded, often lacking objectively interpreted meaning, often framed in different ways to satisfy parties' varied behavioural goals.

Since subcontracts cannot provide for every eventuality they allow room for being subjectively interpreted by the parties, so that whenever problems arise either party may have an interest in gaining as much as it can from the other. Equally, parties may have different subjective perceptions of the facts, or one of the parties may have unrealistic expectations, affecting its ability to reach agreement. Alternatively, one party may simply deny responsibility in an attempt to avoid liability.

Construction projects are a multiplex of inter-organisational relationships with different types of specialist knowledge being deployed at various stages of the construction process. Any problems that may arise at any one-time, with respect to a particular implementation of specific knowledge, may well have wider implications for other configurations of specialised knowledge in the site organisation. This potentially gives rise to a powerful source of uncertainty, making rigid adherence to the subcontract procedures impractical. Leaving parties in a position where they are forced to be flexible and adaptable to cope with the uncertainties.

A subcontract is in theory a stable model of meanings, interpretations of documents, which is designed to formally govern the site organisation. When this model is challenged, as a result of problems that may arise (i.e. variations, delay, unforeseen eventualities, etc) parties' subjective interpretations and misunderstandings arise. These problems usually require an urgent response, which means that parties have to modify (often without knowing it) the subcontract model into a flexible relational one. Therefore, subcontracting practice on site cannot conform to the ideal model – a lack of knowledge and conformity leads to subjective interpretations about problems that arise, which in turn may result in disagreement and ultimately dispute.

The subcontract functions as a forceful symbol, waiting to be put into action and made meaningful by those who possess various knowledges. This may result in differential means of interpretations of the subcontract documents – the parties' subjective understandings. This often means that parties will interpret the documents with differentially interested interpretations based on different knowledges, different positions within organisations, opportunism, etc. For instance, parties' approach to interpretation of disputes without legal knowledge will be based on its own experience and opinion. Those with legal knowledge may get involved in legal interpretation in accordance with the principles of the subcontract.

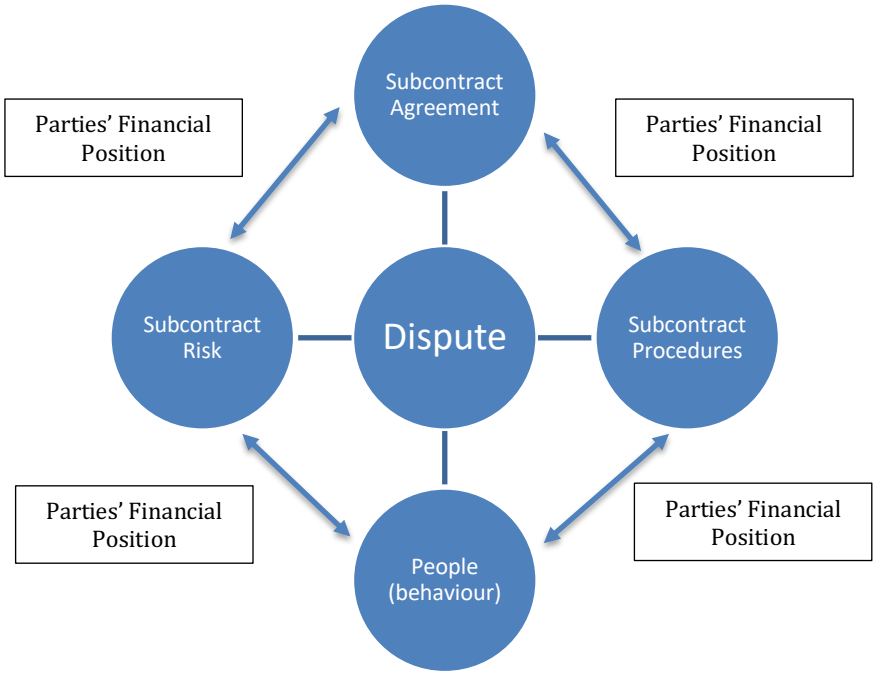
In summary, it might be argued that parties have control to avoid disputes; but interests embedded in different knowledges, different organisations, different cultures and people are complex. Consequently, subjective interpretations will rarely be uncontested – different ways of seeing or understanding documents. The possibility of disagreement and dispute is perhaps endemic. After all, no subcontract can ever provide for its own interpretation.

CHAPTER 8 DISPUTE AVOIDANCE

8.1 Introduction

Based on the findings from the literature, practice-based inquiries and interviews, the main characteristics that will potentially give rise to disputes may be summarised as, subcontract agreement; subcontract risk; subcontract procedures; people (Figure 8). As not all disagreements under construction projects end in dispute despite the presence of the four characteristics, the status of the parties' financial position is perhaps the determining factor as to whether escalate a disagreement escalates to a dispute.

Figure 8: Characteristics Influencing Disputes



Finance is one of the most important aspects for a construction company. Both main contractors and subcontractors need to finance construction projects, therefore disputes will always have a monetary attribution. As such, when finance is affected relations may become strained, and a great deal of anxiety and tension may be present as personal agendas begin to take a foothold; this is supported particularly by practice-based inquiries 2 and 4. In this regard, when a problem occurs on a construction project that is deemed to financially comprise one of the parties' profitability, the potential for opportunism or the need to recover financial losses

manifests itself. In all the practice-based inquiries, recovery of financial losses or profitability were at the core of each dispute. A party then has an interest in seeking as much as it can from the other, which may or may not be reconciled by negotiation without recourse to the subcontract documents.

In practice-based inquiries 1 and 2 in particular, the parties attempted to continue friendly relations in order to reach a compromise. But in both these inquiries an amicable resolution seemed to depend entirely upon the main contractor having reached a financial agreement with its client first. As with all the practice-based inquiries, when an amicable settlement is not possible it is usually the case that the subcontract documents become the focal point of enquiry into the problem and its resolution. As such, the parties will assert their own interpretation concerning responsibility or liability regarding the problem. It is at this point that the environment is created concerning the four characteristics that increases the propensity for disputes.

The research study illustrates the complexity surrounding the identification of the root causes of disputes. As no single factor can be considered as the only cause of a dispute a holistic approach to dispute mitigation needs to be adopted concerning the four main characteristics identified.

Based on the findings in this research study, the following are the most common pitfalls of today's subcontracting leading to disputes from the four characteristics (Table 18).

Table 18: Most Common Pitfalls Leading to Disputes

1. Failure to agree fully documented subcontract before starting work	5. Reliance on relational norms at the expense of subcontract procedures
2. Pre-subcontract period too short	6. Opportunistic behaviour by parties of non-compliance with subcontract procedures
3. Subcontracts too complex and not fully understood	7. Insufficient knowledge in contract law
4. Subcontract risk balanced in favour of main contractor	8. Limited time on site to comply with subcontract procedures

To provide a level of consistency, potential mitigating solutions to avoid the pitfalls are discussed by the Practitioner under each characteristic, although it is acknowledged that they may traverse across one another.

8.2 Subcontract Agreement

One of the four characteristics contributing to disputes relates to the production and agreement of subcontract documents. The construction industry has, and continues to, adopt an anarchic approach to subcontract formation, particularly between main contractors and subcontractors. The usual formalities associated with executing a contract that one might expect with commercial agreements in other fields is not often present in subcontract agreements. They are typically left until sometime after work commences, or when the work is complete, or not at all.

The pressure for subcontractors to commence work is very strong, leaving little time to consider the formalities of subcontract formation. Of course, the ideal solution is for work not to commence until the subcontract is in place. A point which is not usually considered by parties is that the act of commencing work on site is a very strong indication of acceptance of the subcontractual position at that time. This can lead to parties arguing for their own, but competing, interpretations as to what was agreed. Even so, subcontracts are by no means always well designed, leading to misunderstanding, ambiguities and confusion – they sometimes fall short becoming what might be described as not fit for their intended purpose.

Subcontracts are often seen as legally binding and enforceable artifacts designed to cover every conceivable contingency. But they should be designed and seen as project tools, having practical purpose and communication, be clear, free from ambiguity, and user friendly, to achieve the parties' objectives, and prevent disagreements and disputes. If subcontracts are to be usable by non-legal minded or trained parties they must be designed so that they are clear and can be easily understood by those parties. In addition, sufficient time should be made to ensure that a fully documented subcontract is properly prepared, agreed and formally executed before work commences. In this regard, there should be a single point of responsibility for managing and producing the subcontract documentation; subcontracts are often complex, but need to be simplified, which takes time. Subcontracts are in the main

incomprehensible by parties without a legal background, and the absence of clarity invites disputed interpretations by parties and also lawyers. Therefore, each party should understand precise contractual obligations before commencing work on the project

8.3 Subcontract Risk

Subcontracts often include clauses designed to shift risk to subcontractors for example, making a subcontractor responsible for the consequences of unexpected site conditions and effectively precluding recovery of additional costs or time. Similarly, transferring most or all responsibility to subcontractors who are not ordinarily expected to or least able to, control the risk. This may result in a subcontractor having to spend time and resources to mitigate the effects of the risk – thus encouraging the adoption of opportunistic practices to recover any losses.

There should be instead a system that fairly distributes risk between parties. As discussed in the literature section of this research study, fairness is an elusive concept, but the purpose as defined in the research study is to allocate risk to the party best able to control it. And discourage the practice of drafting clauses which prevent or reduce the financial recovery by a subcontractor for risk events, where recovery would be an equitable remedy. In other words, change the practice by main contractors of including punitive clauses in subcontracts.

The use of standard forms of subcontract should be encouraged because they are drafted to appropriately allocate risks as between main contractors and subcontractors – to achieve a fair balance between the rights and obligations of the parties. Amendment to standard contracts should be avoided, as they are designed to disrupt the balance of risk in favour of the main contractor which impacts on the true purpose of the form.

Buildability should be common practice as a pre-subcontract and construction exercise that assesses design, specification, programme, etc to identify potential risks, so that they can be allocated equitable and managed accordingly. In short, subcontracts should not shift all or most risks to subcontractors, and subcontract clauses should not prohibit or prevent any valid claim by a subcontractor. Perhaps a paradigm shift is required to make the necessary changes by seeking to align and

express the interests of both main contractors and subcontractors to mitigate disputes. A proactive approach is needed by main contractors in charge of implementing subcontracts, so that the subcontract serves the parties' interests – those who are impacted by or need to work with the documents, non-lawyers - not for an adjudicator or arbitrator to decide about the parties' failures.

8.4 Subcontract Procedures

A subcontract has an important theoretical (and practical) function to play as the governance procedure between the parties – communicating the procedures to be adopted in executing the project. The research study has identified that parties rarely consult with the subcontract, but instead rely heavily on relational norms to govern the relationship. This is in part for reasons of convenience due to the time constraints on site, a lack of knowledge by the parties, and the complexity of subcontracts.

Subcontracts are complex, difficult to understand and manage, and often incomplete. The pace and complexity of construction projects are not going to change, therefore new approaches to the way subcontracts are drafted, formed and used is needed. Subcontractual information needs to be made more accessible and understandable for the parties, so that they desire to follow the subcontract rather than ignore it, or apply it incorrectly.

Subcontracts should not be framed primarily as legal documents; it's not what parties need or deserve. Parties need, and as the research study shows, usable, operationally efficient subcontracts. They want to know what subcontracts require them to do, in what form, and when, for instance, the procedures to follow should a delay occur to the progress of the works. If the language and complexity through the use of a plethora of documents overload the parties using them, they fall short of their intended purpose and will continue to be ignored. New approaches, such as simplification, visualisation (rather than text-only), and user-friendly design are suggested solutions. Flowcharts, or timelines for instance to highlight, clarify and explain the content would especially appeal, and greatly benefit the contractually illiterate party – user - centered subcontract design and collaboration between parties.

Subcontracts are usually partly drafted by lawyers (terms and conditions), and a range of other people (architect, engineer, contractor, etc) contributing the scope,

specification, drawings, reports and such like. To facilitate use by the parties the various documents must be consistent and linked with each other. The process starts with effective communication between the various parties before the subcontract stage. Thereafter, the main contractor should ensure that the subcontract is prepared in such a manner that ensures the documents are consistent and coordinated to ensure the subcontract is operationally efficient.

8.5 People

The research study revealed that parties did not always possess the necessary knowledge to understand subcontracts and apply the procedures correctly. This can lead to confusion and misinterpretation, and with a limited understanding of the legalities of the subcontract. This can also lead to party exploitation by one party or both.

The major aspects that need to be considered with individuals are their experience and knowledge, and the training they may require, particularly concerning a rudimentary knowledge of contract law. These aspects will undoubtedly influence their decision-making capabilities, their relationships and their ability to solve problems and negotiate, especially regarding contractual issues.

Project scope, subcontract documents, particularly the allocation of risk and responsibility, are important matters that need to be considered by the people involved. Poor knowledge must come from insufficient education, training and experience. This can lead to errors, poor judgment, and carelessness. Experience comes over time and exposure to different situations, but with training and education, main contractors and subcontractors need to invest in the people side of subcontracting, and the important role they occupy with a non-legal background. Main contractors need to pay closer attention to the formation, coordination and implementation processes of subcontracting, and at how to present subcontractual content that engages the users.

Non-legal minded people often find the use of subcontracts overly complicated and hard to understand. Whilst forming the subcontract is evidently important, its successful implementation is equally if not more important. Subcontracts do not govern themselves; people do. Parties need to know how to administer the

subcontract, to know what work needs to be carried out, when, in what order, and how; people with financial responsibility need to know how much payment is due, and when. In essence, parties need an understanding of contract law because a good understanding of contractual matters may help to reduce financial losses caused by unpredictable risks, and less disputes.

8.6 Summary

The new approaches and strategies proposed offer solutions to the successful formation and implementation of subcontracts to overcome the subcontracting pitfalls and mitigate disputes. The strategies can narrow the gap between the artificiality of the subcontract documents and what happens in practice, ultimately turning subcontracts into a communication manual that are easy to use, understand, and implement as intended.

CHAPTER 9 MAIN CONCLUSION

9.1 Conclusion

Subcontracting practice in the UK construction industry is an important form of procurement in the design and construction process. Subcontractors, under a mainly traditional procurement route, carry out almost all construction work including elements of specialist design, governed by predominantly discrete one-off subcontracts. Subcontract terms and conditions are mainly dictated by main contractors, in the form of bespoke agreements or standard form subcontracts with bespoke amendments; designed in favour of main contractors.

A subcontract is the key procedural or governance framework, representing the social interaction in the subcontractual relationship, i.e. the documents that govern the inter-related communications and actions of the parties. Subcontractors essentially have an isolated relationship with the main contractor, whereas the main contractor has the task of procuring and managing various different subcontracts at periodic stages. This is often fraught with difficulty and risk.

The literature presents evidence that subcontractual relationships are mainly traditional, cost driven, and often adversarial in nature; in some cases, resulting in disputes. The cost of disputes is significant, and the adverse effects can be far reaching. At the micro-level, disputes reduce profits and productivity, are time consuming for parties, often result in ill-feeling, and can affect business relationships irrevocably.

Establishing the root causes of disputes is paramount if the industry is to find suitable strategies to prevent or reduce them. However, the literature revealed that despite many studies being undertaken to identify the causes of disputes, they remain prevalent. The literature strongly indicates that many of the strategies aimed at reducing or preventing disputes are founded on research that does not necessarily identify the root causes.

Although previous studies provide a valuable source of data to aid understanding through their generalisation, they lack in depth contextual meaning. Consequently, a need for further empirical research to understand the root causes of disputes was identified which formed the basis of the aim and objectives of the research study.

Construction subcontracts are different from most other commercial contracts, i.e. aside from having to contain the important requirements concerning the formation of

a legally binding agreement, they also need to make provision for constant change throughout the life of the project. The theoretical use and function of a subcontract involves more than simply bestowing legal validity on the actions or decisions the parties take. In serving the construction process subcontracts are designed to fulfil at least three important distinct functions: (1) to accurately record a legally enforceable agreement; (2) to allocate project risks fairly between the parties; and (3) to express the contractual procedures prescribing and controlling the behaviour of the parties throughout the project.

The fundamental theoretical issue which emerged, was whether parties were able to comply with these diverse functions in practice. The literature showed that parties experience practical difficulties when attempting to fulfil these functions, resulting in disputes. The literature highlights a large proportion of situations where the parties fail to accurately record a legally enforceable agreement. Likewise, many subcontracts are formally agreed after construction work has commenced, after work is completed, or not at all.

The literature also reveals the practice exhibited by main contractors of drafting subcontracts that allocate risk inequitably. Main contractors usually occupy the dominant position in a subcontractual relationship, and often include onerous terms designed to reduce or prevent subcontractors financial compensation and increase unfairly their contractual liabilities. Subcontractors may be forced, due to economic factors, to accept such terms bearing unfair project risk. Some scholars view fair apportionment of project risk as a significant factor in the prevention of disputes.

Subcontract documents contain written procedures concerning the day-to-day management of construction projects. Adherence to such procedures is often impracticable under the constraints of normal project working relations. Furthermore, this may be compounded by parties failed attempts to understand how they can be properly implemented due to obscure draftsmanship or inconsistencies in or between documents. As such, parties will often ignore subcontract terms or provisions, relying instead on their own informal procedures, or non-at all.

To address the issues arising from the literature review, the Practitioner developed a research strategy. A qualitative approach was adopted under an interpretative paradigm. It was the ambition of the Practitioner to obtain as much “rich” data as

possible, towards gaining a deeper personal understanding of why disputes arise between subcontractors and main contractors in the use of subcontracts. To achieve this objective, the Practitioner needed an insight into people's understandings and interpretations to uncover unique features and common relational traits, which may or may not be shared by all people.

In line with the overarching intention of a professional doctorate, the aim of the research study emerged primarily from the Practitioner's professional experience and academic knowledge. As a reflective participant, he also formed an integral part of the context of the research. Consequently, cases from the Practitioner's professional practice, concerning construction disputes between main contractors and subcontractors, were considered entirely appropriate as the principal research method for data collection and analysis.

Four practice-based inquiries were carried out, each undertaken through a text analysis and reflective process. A framework for categorising the potential root causes of the disputes concerning each inquiry was presented. Seven potential root causes emanated, namely: misunderstanding of contractual obligations; uncertainty in subcontract documents; self-interest; adversarial behaviour; lack of collaboration; unrealistic expectations; and failure to accurately record subcontract agreement. However, given the complexity associated with parties' relationships in construction projects there is the potential for multiple causes to any given dispute. For instance, did a given dispute arise because one party was acting out of self-interest, or because both parties had different interpretations of a particular clause in the subcontract, both of which were fair minded and rational? Is there both a belligerent party and an ambiguity in the subcontract documents? And to obfuscate matters further, is there a single dispute with two causes?

Semi-structured interviews involving participants from main contractor and subcontractor organisations were chosen as a second method. Each interview focused primarily on learning about the participants experiences of subcontracting practice in an attempt to understand their views, and to unfold the meaning of their experiences of potential causes of disputes in the use of written subcontracts. Interview data was analysed for each group using a grounded theory technique, and emergent themes were presented and analysed. In the main, the findings suggest a number of themes

which potentially drive the development of disputes: subcontracts are not fully negotiated, and few terms are negotiated at all; and there is often an imbalance of risk and punitive terms in subcontracts documents, in favour of the main contractor. Delivering projects through trust and cooperation with little recourse to the subcontract procedures appears to be a way of working that the parties considered necessary, however, this practice gives rise to opportunistic behaviour.

Final conclusions show that the root causes of disputes may be numerous, and any attempt to identify a 'universal' cause is impossible. At best, it may be feasible to identify the root causes pertaining to an individual dispute relative to a specific construction project, but as the research shows given the complexity associated with each project even that task is beset with uncertainty. There is no unique feature of a construction project which will guarantee the absence of disputes.

The research shows that there are four potential characteristics that have the potential to influence disputes, i.e. subcontract agreement; subcontract risk; subcontract procedures; and people (behaviour). The status of the parties' financial position pertaining to each construction project will, in the main, determine the behaviours and actions of the parties. Hopefully, the groundwork is laid for continued empirical research, necessary to better understand the root causes of disputes between main contractors and subcontractors concerning written subcontracts.

9.2 Contribution to Knowledge

In the context of a PhD it is common for researchers to focus their attention to filling perceived gaps in knowledge developed from literature pertaining to a particular field of study (Bourner, Bowden & Laing, 2001). Conversely professional doctorate researchers are expected to research perceived problems from within their own practice (Bourner et al, 2001). The traditional PhD resonates with the principles of propositional knowledge (Smith, 2009). Whereas the aim of a professional doctorate is to make a contribution to existing knowledge and to advance or enhance professional practice (Smith, 2009). Tenant (2010) describes professional doctorates as linking practice-based problems and issues. In short, it is concerned "…with making a research-based contribution to practice" (Bourner et al, 2001, p. 75).

The research study makes a significant contribution to knowledge of professional practice in the UK construction industry in the following ways, albeit based on small-scale empirical research:

- A unique insight into subcontracting practice which identified particular characteristics that give rise to construction disputes from both interviews and practice-based inquiries.
- A distinctive methodological approach to data collection and analysis in the form of practice-based inquiries into the root causes of disputes between main contractors and subcontractors.
- The research study shows that it is not possible to identify a 'universal' root cause of disputes, only that there are primary characteristics which will influence root causes.
- Potential solutions to the successful formation and implementation of subcontracts to overcome the subcontracting pitfalls and mitigate disputes are provided.

9.3 Further Research

Despite research and knowledge that has been accumulated in relation to dispute causation, disputes continue to prevail. The research study has identified characteristics out of which disputes emerge, however more empirical research is needed to develop a clearer understanding of these recurring characteristics, to assist the development of suitable prevention strategies.

All construction disputes ultimately involve people and money; the majority will include a subcontract. The research study shows that parties do not fully understand subcontracts, yet in theory and in practice the subcontract is a potent symbol of authority waiting for action; to be made purposeful by the parties, often with different interpretations. As such, there is much more to learn about how parties formulate, implement, and interpret subcontracts.

Establishing new practice-based inquiries and interacting with real subcontract users will generate rich qualitative data that will unveil peoples knowledge, cognitive and experiential understanding, as well as the restrictions and challenges emerging from construction project environments. Perhaps longitudinal studies of construction projects may reveal the points at which disputes are likely to arise, and do arise. Experimenting with subcontractual relationships in different procurement routes may

reveal both similarities and unusual features among different research studies, resulting in a broader rich and contextualised understanding of the causes of disputes. Primary focus of empirical research should be on the actual relationships between the two contracting groups which constitute the context in which subcontracts are drafted, negotiated, and form the governance structure.

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